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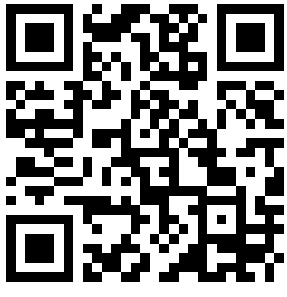

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THE

CHEMICAL TRADE JOURNAL:

A WEEKLY NEWSPAPER DEVOTED TO

The Commercial Aspect of the Chemical and Allied Industries.

EDITED BY

G. KEVILLE DAVIS, M.Sc.,

CHEMICAL ENGINEER AND CONSULTING CHEMIST.

VOLUME XLI.

[JULY TO DECEMBER, 1907.]

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AND

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LATE ADVERTISEMENTS.

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

Readers are invited to forward items of intelligence, or cuttings from local newspapers, of interest to the trades concerned.

THE BOARD OF TRADE.

THERE can be no doubt that the problems of trade and industry are now receiving more sympathetic and practical treatment in official circles than has been the case for some considerable time. We have frequently commented in these columns on the mismanagement of great industrial questions by the Government department to which is intrusted the administration of this section of national affairs, and we have also carefully recorded the continuous and well-directed efforts of bodies, such as the Associated Chambers of Commerce, for securing the necessary measures of reform. The manufacturers and traders of the country recently received with amusement and ridicule the information—elicited during the deliberations of a Committee of the House of Commons—that the Board of Trade, as at present constituted, includes amongst its members at least one high ecclesiastical dignitary, and several other worthies equally ignorant of industrial subjects. This information, however, was tempered with the assurance that the Board of Trade never meets, and that its executive responsibilities are vested in its President. On the appointment of the new head of the Department, Mr. Lloyd-George, M.P., we ventured the criticism that since the reform of the Board of Trade was admittedly imperative, it was somewhat of an anomaly to find the office filled by a lawyer. We comforted ourselves, however, with the reflection that, given the necessary administrative ability, coupled with broad views as to the claims of commerce and industry, Mr. Lloyd-George could scarcely fail to do better than his predecessors in office. He has now had a sufficiently prolonged trial to justify some review of his achievements, and we think it will be conceded by unbiassed critics that he has emerged from the ordeal with a very fair degree of success.

One of the new President's first measures was an Act providing for a periodical industrial census, as the result of which it is hoped that we shall be placed in possession of more complete and accurate information as to the state of the trade of the country. He next secured the passing of a measure for the better regulation of the merchant shipping industry, and this without arousing antagonism from the various interests concerned. His Bill to reform the Patent Laws is so recent as not to require further recapitulation here; as to the benefits which will accrue to British trade from the working of that measure it is too early to venture an opinion.

There can be no doubt that Mr. Lloyd-George has made a very creditable attack on the arrears of commercial and industrial legislation which were left to him by his predecessors at the Board. The administration of the Department was discussed at some length in the House of Commons on Thursday of last week, when the Civil Service

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estimates came up for consideration. During the debate on the vote for the expenses of the Board of Trade, Sir C. McLaren said that everybody connected with trade and commerce extended their cordial congratulations to Mr. Lloyd-George on the way in which he had administered the affairs of his Department during the last eighteen months. Sir F. Channing raised the question of railway rates, and asked the President of the Board whether, in the event of the Bill dealing with the terms of owners' risk contracts passing this session, he could hold out any hopes that the question would be dealt with in the near future. In reply, Mr. Lloyd-George observed that it would be out of order for him to say anything about the subject, as there was already a Bill before the House. His views were well known, however, and he hoped that that Bill, which had passed through the Grand Committee, would become law.

Sir F. Channing also called attention to the combination of railway companies which had been initiated during the last year or two, and which culminated in a specific agreement in January last. In reply, Mr. Lloyd-George said that with regard to this arrangement, which had been entered into with a view of putting an end to the rebate system, he had expressed his views very fully to a deputation. In so far as it was an arrangement for destroying competition and preventing the reduction of rates to traders it was a bad arrangement. There were two possible systems—the present system of private enterprise in this country, and the system of State-owned railways, as in Germany, Belgium, India, and some of our colonies. Free and open competition ought to be one of the greatest advantages of the system of private enterprise, and if the public was to lose the advantages of private ownership without securing any of the advantages of public ownership, then the people of this country would have to reconsider their attitude towards the transport system. That was all he could say on the subject at present.

Sir John Brunner, M.P., who also took part in the discussion, said it was to the administration of the Board of Trade that he largely looked for benefit to the commerce of the country. He asked the President of the Board to press forward with the inquiries he was making, to enlarge them, and to inquire not only with regard to the purchase of railways, but with regard to other public works. The prosecution of this policy of public works would bring much prosperity to the manufacturers of the country. We had a higher cost of inland transit for goods than any country of the world.

In his general reply on the debate, Mr. Lloyd-George said there was no doubt that in common with one or two of the great manufacturing countries of the world we had had a very considerable boom in trade, and judging from the Board of Trade returns we had a larger proportion of the international trade of the world than almost any of our competitors. The returns for the last five months showed that while, the increase in our imports had been about a million the increase of our exports had been twenty millions. Employment was on the whole very satisfactory, and he saw no signs at present of a reaction in trade. There seemed at one time some prospect of a break-up in the German boom, but now things were looking very much better. Employment in this country was improving, and the percentage of unemployment had gone down very considerably as compared with two or three years ago. There had been a very considerable increase in wages, amounting during the five months of the year to something like five millions.

There still remains much work to be done before the reasonable demands on the Government by manufacturers and traders can be regarded as having received adequate attention, and we await with interest the further development of the programme of reform which has been outlined by the new President of the Board. The reform of the Consular service still awaits his attention, while the revivification of our canal system will afford ample scope for the most vigorous treatment. There is reason, however, to be satisfied with the progress that has been made, and we confidently anticipate the realisation of the other reforms so long demanded by those most intimately concerned with British trade and industry.

CHEMICALS IN FRANCE.

CALAIS AND DISTRICT.

MR. Consul Pagton, in his report on the trade of Calais and district for 1906, states that the principal articles of import at Calais during 1905-06 were manganese—of which 5,989 tons were imported in 1905 and 3,323 in 1906—and petroleum, both raw and heavy oils. Imports of the former averaged, from 1901-05, 13,770, and the latter 1,726 tons. Russia, U.S.A., and Belgium were the principal places of import.

The principal articles of export were chalk (average export for 1902-05 7,958 tons, U.S.A. and Norway principal export countries), chemical products (64 tons average for 1901-05, United Kingdom export country), ochres, phosphates, and carbonate of potash (all exported to United Kingdom; average of ochres increasing, of phosphates and carbonate of potash, 453 and 108 tons respectively).

The production of lime at Calais has been injured by importation from Belgium. There are two soap factories with a production of £16,000. to £20,000. yearly, half for home consumption and half for export.

BOULOGNE.

The principal imports at Boulogne during 1905-06 were:—

Chemicals ...	1,182	tons average for five years.	
China clay ..	529	,,	,,
Iron ore	26,509	,,	,,
Salt	4,451	,,	,,

Other goods came from the United Kingdom.

The principal exports for the same period amounted to:—

	1905.		1906.	
*Cement	10,279	..	9,993	tons.
*Chalk	—	..	4,669	,,
Glue	665	..	695	,,
Phosphate of Lime	4,055	..	3,404	,,

* Cement and chalk to Brazil and Argentine, U.S.A., respectively.

LILLE.

The year's production of alcohol from beet was 24,276,000 gallons, being greatly in excess of 1905. The price of alcohol stood firm at 1s. 5d. a gallon. It is expected that the present season of production will be much the same. From molasses the 1905-06 production was 17 million gallons; the present season will probably not exceed 11 millions. The use of "denatured" alcohol for industrial purposes increases. The consumption for 1906 will be probably over 11 million gallons. Starch is prosperous, low prices of maize and rice compensating for increased cost of coal.

High prices of iron, lead, copper, phosphates, pyrites, coal, etc., were the inevitable cause of a considerable rise in chemical products. The extraordinary consumption of superphosphates caused an enormous demand for phosphates and pyrites, the latter for the production of sulphuric acid used in the manufacture of superphosphates. As the natural beds of phosphates are becoming exhausted, the price of this article rose 30 to 40% and of pyrites 10 to 15%. It is feared that the high prices of superphosphates and sulphate of copper will reduce the use of these manures, which are becoming too dear for agriculturists. In spite of the campaign against the use of white lead in paints this article maintains its position, though its prosperity is not commensurate with the present general activity in trade.

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The following table shows the importation and exportation of white lead, oxide of zinc, and substitutes during the last three years :—

Articles.	1904. Tons.	1905. Tons.	1906. Tons.
White Lead :—			
Imports	2,154	2,170	1,952
Exports	2,384	3,120	3,370
Oxide of Zinc :—			
Imports	2,867	4,290	4,174
Exports	2,535	2,689	2,240
Substitutes :—			
Imports	2,823	3,601	4,412
Exports	675	482	324

This tends to show that the only effect of the campaign against white lead was an increase in the importation of substitutes, principally German lithopone.

The sugar crisis of the past year, though somewhat diminished, is still intense, as the world's production of sugar is in excess of the consumption. The general stock is much the same as in the previous year, 3,225,000 tons on December 1, 1906, against 3,330,600 tons at same date of 1905. The position of the French stock is similar, 796,000 tons December, 1906, against 734,000 tons in 1905. The difference is slight, considering that the French production of sugar during the 1906 season was, owing to short supply of sugar beetroot, too cheap to be remunerative to cultivators, who preferred to grow it for distilling purposes, only 585,000 tons, over 300,000 tons less than in 1905.

AMIENS.

Mr. Vice-Consul Sutcliffe reports that phosphates for agricultural purposes were estimated at £220,000., a great deal being exported. The distilleries produced 3,520,000 gallons of alcohol.

Land under cultivation for sugar beetroot was, for 1905-06, 682,537 acres against 503,316 acres the previous season, and the production amounted to about 12¼ tons per acre. The total crop was 8,415,807 tons, nearly double that of 1903-04. The average price paid to growers in 1905-06 per ton was 19s. 6d., against 17s. 7d. in the previous year.

There were 292 factories working, showing an increase of 22. These factories produced 984,671 tons of refined sugar. Pulps, total weight 3,799,321 tons, were re-sold at 3s. 2½d. The average density of juice was 5.62°, against 5.44° the previous year.

AMERICAN TRADE IN 1906.

IN his report on the trade and commerce of the States of Oregon, Washington, and Idaho for the year 1906, Mr. Consul Laidlaw states that the trade of the district has been in a most flourishing condition throughout the year. In the staples of wheat, flour, and timber, the exports were £834,000. more than in 1905, and imports were fully £777,000. in excess of that year. There was a good return from fisheries, and a development of mining and industrial enterprises; agricultural conditions were also favourable. The building trade has been active, and the population of all towns has increased steadily.

Cement has increased in import, and British manufacturers have endeavoured at last to recover their lost trade. From California 30,000 casks were received, an amount which would, but for the earthquake, have been exceeded. In the districts of Bellingham and Baker River there are prospects of factories being started in the near future. Early in the year consumers had to pay 12s. to 14s. a cask, but, later, cargo lots were sold at from 10s. to 11s.

Four beet-sugar factories were operated in Idaho, with a capacity of 2,650 tons daily, one in Washington of 500 tons, and one in Oregon of 350 tons. During the season they produced 72,648,000 lbs. of sugar; other mills will be open in 1907. The factories have great difficulty in getting the farmers to cultivate beets, as it is a business involving more labour than most branches of agriculture.

A continued development in mining has taken place in this district, but as there is no mining bureau in either Oregon or Washington it is difficult to arrive at figures of production, and many properties heralded as mines are merely prospects. According to the United States Geological Survey there are 1,211 mines in the State of Oregon under development, mostly gold, silver and copper, and there are said to be about 3,370 persons engaged in mining.

Cobalt has been found in quantity in Grant County, Oregon, and is being sent to Germany and to electrical works in the Eastern States. The United States Geological Survey have continued experiments with the black sand found in great profusion on this coast, and claim to have demonstrated that platinum in paying quantities, besides other valuable minerals, can be extracted readily from these sands.

The total number of fatal accidents to miners in Idaho was 17, and the number of miners employed in all the mines of that State is given as approximately 7,000.

The following table of the output of gold and silver is made up from the preliminary estimates of the United States Mint :—

State	Gold.		Silver.	
	Quantity.	Value.	Quantity.	Commercial Value.
	Fine ozs.	£	Fine ozs.	£
Idaho	58,762	242,923	9,136,800	1,214,289
Oregon	66,226	273,980	100,100	13,293
Washington	17,058	70,520	140,500	18,658
Total.....	142,046	587,423	9,377,460	1,246,240
,, 1905..	142,221	587,970	8,823,766	1,063,284

The product of the Tacoma smelting and refining works in the precious metals during 1906 is reported as follows :—Gold, 238,326.72 ozs., value £985,243. ; silver, 2,312,704.31 ozs., value £307,071. ; a decrease in gold but an increase in silver. A large proportion of the ores smelted came from British Columbia and Alaska.

Copper has been in great demand, and the average value appears to have been about 9½d. per lb. The deposits in Oregon and Washington have not been largely developed, and those of Washington County, Idaho, which are of great volume, are handicapped by want of railways, which are, however, being pushed in that direction.

The following table illustrates the increasing product of the district (only a trifle of the Idaho copper is smelted within the State, and the amount given is metal contents) :—

	1906.	1905.	1904.	1903.
	Lbs.	Lbs.	Lbs.	Lbs.
Idaho.....	11,640,565	6,661,440	5,422,007	2,524,000
Tacoma smelter.	20,121,979	20,351,261	16,125,774	10,889,463
Total	31,762,544	27,012,701	21,547,781	13,413,463

Some of the large Idaho mines which were not worked in 1905 were re-opened in 1906. The following is the output of this metal during the last two years :—

	1906.	1905.
Idaho (metal contents) ...	255,966,083	260,791,456
Tacoma smelter	30,646,381	30,032,718
Total	286,612,464	290,824,174

In 1903 the combined product was 236,740,746 lbs. ; the average market value appears to have been £1. 2s. 8d. per 100 lbs. Ores of zinc were not valued some years ago, and galena mines were sometimes closed on account of its presence in the ores. In 1906 the metal content of zinc from Idaho mines was 1,477,000 lbs., of an average value of £1. 4s. 9d. per 100 lbs. Some mines in Shoshone County, Idaho, produce high grade antimony ores, averaging 55 % of the metal. Several truckloads were sent out.

The U.S. engineers have started work on a canal round the rapids of the Columbia River, between the Dalles and Cehilo Falls. This canal will be 8½ miles long, 65 feet wide, and 8 feet deep. The locks will be 300 feet long and 45 feet wide in the clear. The cost will be £825,000., of which, up to June 30, £43,020. has been expended.

PROPOSED INTERNATIONAL EXHIBITION IN MANCHESTER.—The question is being discussed in Manchester as to the desirability of holding an International Exhibition, on the lines successfully adopted in 1887, when a surplus was realised of £50,000. A deputation of traders waited on the Lord Mayor on Tuesday last to submit a resolution in favour of organising such an exhibition.

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Parliamentary Jottings.

HOUSE OF LORDS.

On Tuesday last, the Limited Partnerships Bill, which has already been passed by the House of Commons, was read a second time.

HOUSE OF COMMONS.

CORDITE.

On the 27th ult., Mr. Bellairs asked the Secretary to the Admiralty what was the date of the first sitting of Lord Rayleigh's Cordite Committee; and what proportion of the estimated £200,000. to be spent this year on refrigerating machinery for the magazines was for the ships already built, which had been officially stated to number 51 battleships, 28 armoured cruisers, and 76 unarmoured cruisers.

Mr. Lambert.—The date asked for was April 4, 1907. Of the total of £200,000., £165,700. is the estimated sum required for ships already built.

Mr. Bellairs.—Can the hon. member tell the House what was the first date on which the Admiralty received information that Kynochs were adding mercuric chloride?

Mr. Lambert was understood to reply that he could not bear the date in mind.

Mr. Bellairs.—Is the hon. member aware that the discovery was made in December, and this Committee was only appointed in April?

Mr. Lambert.—If the hon. member knows that, why does he ask me for the information?

Mr. Bellairs asked the Secretary of State for the Home Department, on what date was the discovery made of the presence of mercuric chloride in the cordite at Kynoch's magazine, near Cardiff, resulting in the seizure of 23,000lb., and whether he could state when the appeal trial of Kynoch, Limited, in reference to the addition of mercuric chloride to some blasting gelatine, was likely to be heard.

Mr. Gladstone.—The 23,000lb. of explosives which were seized at Mwyndwy Bach Farm, Glamorganshire, in December, 1906, was not cordite, but exclusively blasting explosives. The firm were suspected of using a masking agent in the summer of 1906, but it was not until just before the seizure that the inspectors were in a position to prove the presence of mercury in blasting explosives. The case which Quarter Sessions agreed to state on April 24 has only been drafted by the appellants within the last few days. This delay on their part makes it most unlikely that the case will be heard until after the vacation.

THE HOME OFFICE AND MESSRS. KYNOCH, LIMITED.

In the debate on the vote for the Home Office, Mr. Mooney, who had given notice of his intention to move a reduction of £1,000. in order to call attention to the action of the Home Office in regard to Messrs. Kynoch's factory at Arklow, Ireland, explained that he did not intend to proceed with the amendment. He was glad to say that, largely owing to the tact and courtesy of the Home Secretary, an amicable arrangement had been come to which was quite satisfactory from the Irish point of view, while at the same time it safeguarded the public interest. Mr. Gladstone had entirely removed the impression that his Department was attempting to make a distinction between English and Irish factories.

Mr. Gladstone repudiated any feelings of hostility against Messrs. Kynoch or against Irish interests. He had simply done his best to perform a difficult public duty. As this was a very important matter, it was desirable that the terms of agreement should be made public. Messrs. Kynoch had agreed to withdraw their appeal to the High Court and to accept the decision of the Essex Sessions, to write a letter to the Chief Inspector of Explosives undertaking not to use mercuric chloride or any ingredient which had a masking effect on the Abel heat test, and generally to observe the terms of their licence. They would also indicate to the Home Office the explosives now under seizure which contained mercuric chloride and hand them over to the inspectors. So far as the Home Office was concerned, it agreed that the cases pending against Messrs. Kynoch should be withdrawn, that all explosives not containing mercuric chloride should be released, and that the magazines required by Messrs. Kynoch for trade purposes should be cleared of their present contents—the explosives seized under the Act—which would be concentrated in such places as might be approved by the Chief Inspector. He thought this settlement was in the public interest and to the advantage of everybody concerned.

PATENTS AND DESIGNS BILL.

The London correspondent of the *Birmingham Daily Post* states that when the report stage of the Patents and Designs Bill introduced by the President of the Board of Trade is taken in the House of Commons, Mr. E. C. Meysey-Thompson, the Unionist member for the Handsworth Division, will move the following new clause:—

(1.) A patentee may, after advertising in manner directed by any rules made under this section his intention to do so, present a petition to the Controller of the Patent Office, praying that his patent may be extended for a further term, but such petition must be presented at least six months before the time limited for the expiration of the patent.

(2.) Any person may enter a caveat addressed to the Controller of the Patent Office against extension.

(3.) If the Controller of the Patent Office shall be pleased to refer any such petition to the President of the Board of Trade, the said President shall proceed to consider the same, and the petitioner, and any person who has entered a caveat, shall be entitled to be heard himself or by counsel on the petition.

(4.) The Controller of the Patent Office shall, in considering his decision, have regard to the nature and merits of the invention in relation to the public, to the profits made by the patentee of such, and to all the circumstances of the case.

(5.) If the Controller of the Patent Office report favourably upon the application, it shall be lawful for the President of the Board of Trade to grant an extension for a period not exceeding seven, or in exceptional cases fourteen years, or to order the grant of a new patent for the term therein mentioned, and containing any restrictions, conditions, and provisions that the Controller may think fit.

(6.) It shall be lawful for the President of the Board of Trade to make from time to time rules of procedure and practice for regulating proceedings on such petitions, and subject thereto such proceedings shall be regulated according to the existing procedure and practice in patent matters.

(7.) The costs of all parties of and incident to such proceedings shall be, in the discretion of the Controller of the Patent Office, subject to review by the President of the Board of Trade, and the orders of the Controller respecting costs shall be enforceable as if they were orders of a division of the High Court of Justice.

Reports of Companies.

KYNOCH, LIMITED.

The annual meeting of Kynoch (Limited) was held at Birmingham on the 25th ult. A net profit of £72,656. was reported, and dividends were recommended at the rate of 5% on the preference shares, and 10% on the ordinary shares.

The Chairman (Mr. Arthur Chamberlain) said the falling off in the Government orders last year was sudden, complete and absolute. Not only did the amount of Government business seriously decline, but owing to consequent keenness of the competition the profit disappeared. To meet the situation they had given more attention to the advancement of their peaceful industries. Of these they had ten under their control. The attempt to monopolise the sale of soap last year gave them a great lift, of which they took full advantage. The firm's loss by reason of the high price of metals was serious, amounting to £26,000. The dispute with the Home Office was still unsettled. It concerned the use by them of an infinitesimal quantity of mercuric chloride in the manufacture of cordite and other high explosives. That was similar to antiseptics in surgery, and had the effect of preventing bacteriological action which might arise under conditions of great heat or damp. The Home Office had seized a number of their magazines with their contents, and had held them for nine months, thus dislocating their trade, increasing their expenses through keeping a quantity of stock idle and unproductive, and giving advantage to trade rivals in Scotland and England. They were prepared to prove that the treatment with mercuric chloride always made explosives safer. The fact that the Government refused arbitration was a proof that they had no case. Kynochs had been at a disadvantage for many years past. If they were not allowed to secure the stability of their explosives when crossing the ocean by taking the necessary precautions, they were prepared to meet the case by sending their factories across the ocean and manufacturing in the markets in which they were sold—a position that would certainly not reduce their profits. The report was adopted.

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THE INDIAN OILSEEDS CROP.

THE Final General Memorandum on the spring oilseeds crop of the season of 1906-7 has been issued by the Commercial Intelligence Department at Calcutta, dated May 30th.

The areas dealt with in the reports summarised below comprise, besides certain native territories, such a proportion of the respective crop areas in British India as amounts to 99.39% of the total in the case of rape and mustard, and 95.8% in the case of linseed.

In the case of rape and mustard the total area under the unmixed crop is returned as 4,196,500 acres, as against 4,052,800 acres in 1905-06, the increase being 143,700 acres or 3.5%. The total area under the "mixed" crop (that is to say, interspersed with other crops) is estimated as 2,210,000 acres, as against 2,026,000 acres in 1905-06, the increase being 184,000 acres, or 9.1%.

The total out-turn (mixed and unmixed) is computed at 1,073,600 tons, as compared with 968,700 tons in the previous year, the increase being 104,900 tons, or 10.8%.

In linseed (pure) the total area is returned as 3,028,200 acres, as against 2,711,800 acres in 1905-06, the increase being 316,400 acres, or 11.7%. The total area under the "mixed" crop is estimated as 633,000 acres, as against 567,000 acres in 1905-06, the increase in this case being 66,000 acres, or 11.6%.

The total out-turn (mixed and unmixed) is computed at 422,300 tons, as against 352,900 tons in the previous year, the increase being 69,400 tons, or 19.6%.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total area under the crop in British India is ordinarily cultivated in that province:—

Rape and Mustard.

United Provinces (38.5%).—The area under the *unmixed* crop is reported to be 153,400 acres, as compared with 154,700 acres last year, a decrease of 0.8%. Moisture for sowing was insufficient in the eastern submontane districts, where rapeseed is largely grown. The winter rains were late. When they arrived in February they did some good, but continued wet and cloudy weather in February and March produced fungoid disease in the greater part of the province. The injury has not, however, been so great as in the case of wheat. The out-turn is estimated at 30,000 tons, the same as in the preceding year. The area of rapeseed grown, in combination with other crops (chiefly for home consumption), is estimated at 2,210,000 acres, and the out-turn 424,000 tons, compared with 2,026,000 acres and 398,000 tons respectively for last year. These estimates are highly conjectural.

Bengal (13.4%) reports the area sown to be 818,100 acres, compared with 767,200 acres last year—an increase of 6.6%. On the whole the season was not very favourable. The out-turn is estimated at 138,800 tons, as against 118,400 tons last year—an increase of 17%.

Eastern Bengal (21.2%).—The final report has not yet been received. In February last the area was estimated to be 1,207,600 acres, compared with 1,144,500 acres for last year—an increase of 5.6%. The out-turn was estimated at 83% of normal. On this basis the gross yield amounts to 220,000 tons,* compared with 176,000 tons for the preceding year—an increase of 25%.

Assam (4%) reported 171,100 acres in March last, as compared with 164,400 acres at that date last year. The out-turn was reported to be 32,000 tons, as against 30,200 tons last year—an increase of 6%.

Panjab (18.9%) reports the area sown to be 1,471,200 acres, compared with 1,614,200 acres last year—a decrease of about 9%. The area is, however, nearly 40% larger than the average of the preceding five years. Opportune rains in the autumn were succeeded by satisfactory winter falls; but in the spring the conditions became abnormal, and excessive rains continuing through February, March and April have damaged the unirrigated crop. The out-turn is estimated at 183,300 tons, compared with 183,000 tons last year.

North-West Frontier (1.9%) reports 218,800 acres, as against 85,500 acres last year—an increase of 156%. The winter rains were copious and general. The heavy and well distributed rains from January to March were also beneficial. The out-turn is estimated to be 19,400 tons, compared with 12,200 tons last year—an increase of 59%.

The British districts of *Bombay* (0.05%) report 2,700 acres, compared with 900 acres last year. The Native States report 58,700 acres, as against 42,900—an increase of about 37%. Sowing rains were favourable, and the crop has progressed well. The out-turn is estimated to be 500 tons in British districts, and 13,600 in Native States, as against 200 and 9,100 tons respectively in the preceding year.

Sind (1.4%) reports 84,200 acres (4,200 in Native States), as compared with 64,200 acres (3,800 in Native States) for last year—an increase of 31%, attributed to favourable inundation. The crop is reported to be in a fair condition except in Larkana, where it has been damaged by rain and hail. The out-turn is estimated to be 11,800 tons (700 in Native States), as against 11,500 tons (600 in Native States) last year.

Hyderabad reports 10,700 acres and 200 tons, as compared with 14,300 acres and 100 tons last year.

Linseed.

United Provinces (35.2%).—The area under the *unmixed* crop is reported to be 315,000 acres, as compared with 210,900 acres last year—an increase of 49%. In Bundelkhand, where linseed is chiefly grown, moisture for sowing was sufficient. The winter rains were late, and when they arrived, in February, they did some good, but continued wet and cloudy weather in February and March produced fungoid disease. In Bundelkhand and Mirzapur, however, the crop escaped injury, and the yield has been good. The out-turn is estimated at 56,300 tons, as against 32,800 tons last year—an increase of about 72%. The area of linseed grown in combination with other crops (chiefly for home consumption) is estimated to be 633,000 acres, and the out-turn 113,000 tons, compared with 567,000 acres and 88,000 tons respectively for last year. These estimates are highly conjectural.

Bengal (22.7%) reports the area sown to be 671,800 acres, compared with 726,500 acres—a decrease of 7.5%. The crop suffered in Lower Bengal from excessive rain at the time of sowing, and from absence of rain in Bihar at the period of early growth. Rain and hailstorms also damaged the crop in places towards the harvesting time. The out-turn is estimated at 94,800 tons, compared with 110,500 tons last year—a decrease of 14%.

Eastern Bengal (3.6%).—The final report has not yet been received. In February last the area was estimated to be 87,700 acres, as against 103,000 acres for last year—a decrease of 15%. The out-turn was estimated at 78% of normal. On this basis the gross yield comes to 15,000 tons,† compared with 17,000 tons for the preceding year—a decrease of 11.8%.

Central Provinces and Berar (25.3%).—The total area sown is reported to be 1,145,200 acres (1,051,700 in the Central Provinces and 93,500 in Berar), compared with 912,100 acres (815,400 in the Central Provinces and 96,700 in Berar) last year—this representing an increase of 25.6%. The prolonged cloudy weather, frost, rains, and hail caused serious damage to the crop. The total out-turn is estimated to be 104,700 tons (96,000 in the Central Provinces and 8,700 in Berar), as against 77,300 tons (69,600 in the Central Provinces and 7,700 in Berar)—an increase of 35%.

The British districts of *Bombay* (9%) report 130,500 acres, compared with 139,600 acres last year—a decrease of 6.5%. The Native States report 13,700 acres, as against 15,200 acres last year—a decrease of about 10%. In East Khandesh and Satara, the crop has yielded fairly, but elsewhere in the Deccan it has suffered from want of moisture. In the Karnatak the condition of the crop is reported to be fair, except in parts of Bijapur and Dharwar, where the December rain proved injurious. The out-turn is estimated to be 5,500 tons in British districts, and 400 in Native States, as compared with 2,400 and 200 tons respectively in the preceding year.

Hyderabad reports 664,300 acres, as compared with 604,500 acres last year—an increase of about 10%. The crop is reported to be in good condition. The out-turn is estimated to be 32,600 tons, compared with 24,700 tons last year—an increase of 32%.

WARNING TO BRITISH TRADERS.—Information has been received at the Commercial Intelligence Branch of the Board of Trade relating to certain foreigners in Smyrna, formerly exporters, which will be communicated in confidence to British traders who may apply personally at 73, Basinghall-street, London, E.C.

* Report just received gives 218,300 tons against 168,100 for last year.

† Report just received gives 12,600 tons against 17,300 for last year.

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Continental Notes.

In the *Chemische Industrie*, for May 15, some extracts are given from the report of the Prussian factory inspectors. Many details are cited as to the precautions that are being taken against lead poisoning and other special diseases. The men engaged in certain of the more injurious operations in lead works, for instance, are required to put on clean clothes daily instead of weekly, as was formerly the case. An interesting observation was made at an ether factory. The emptying cock of a large reservoir for ether was connected with a rubber tube, in the middle of which there was a glass tube. The lower end of the tube was introduced into the drum that was to be filled. The workman who had had charge of the operation of filling the drums for a long time had observed frequently that sparks 10 to 20cm. sprang from the glass tube to the iron drum, but he never mentioned the fact until other fire precautions were being laid down by the inspector. It was evident that electricity was generated by the friction of the ether with the glass. Although the sparks only appeared in dry weather, it was found by the manager of the works that even in wet weather considerable charges could be detected with the electroscope. Since the glass tube has been replaced by an iron one the phenomenon has ceased. Against the danger of poisoning by nitrous fumes the precaution of drinking chloroform water is still found very effective, and is being generally adopted.

This and the following issue of the same journal contain the final instalments of an account, by D. L. Lehmann, of the developments in the subject of artificial organic dyestuffs.

For the cure of men who have accidentally inhaled gas or air containing carbon monoxide, the application of oxygen is officially recommended in the issue for June 15, and it is laid down that a cylinder of compressed oxygen and a proper mouthpiece be always kept near to suction gas plants and other plant where there is any danger of carbon monoxide escaping. In the same issue there is also a discussion between Weigelt and Lauterborn, on effluents in the Rhine.

In the second number of the *Kriegs-technische Zeitschrift*, there is an interesting article in explanation of the destruction of the bore of guns by the use of nitrate powders. The writer, W. Kiever, ascribes the action to the occlusion of gases under the influence of high temperature and pressure. If the temperature and pressure be sufficiently high, the amount of gas dissolved or occluded by the iron is so great that when the pressure of gas has fallen off outside the metal, that of the gas which is in the metal is sufficiently high to disrupt it and cause ruts in the surface. This action being repeated each time the gun is fired, gradually scores deeply into the bore, the effect being increased by the mechanical action of the projectile. To prevent this destruction of big guns, the author suggests that the steel might be alloyed with some metal, such as magnesium, which would combine chemically with the nitrogen that is forced into the metal, and form a solid compound that would have a less injurious effect than the gas. Alternatively, he proposes to wash the bore out with an alkaline material before each shot.

An interesting obituary of Prof. Mendeléeff is contributed by Saposhnikoff to the *Zeitschrift für das Gesamte Schiess- und Sprengstoffwesen*, for May 1, special attention being of course devoted to the contributions that the deceased scientist made to the subject of explosives. Microphotographs are given to show the difference between Mendeléeff's pyrocollodion powder and a pyroxylin powder.

In the same issue, C. E. Bichel writes on the recent accidents at Courrières, Reden, and Klein-Rosseln, and their effect on the examination of safety explosives in various lands. These accidents are all to be ascribed to the explosion of coal dust suspended in air rather than of fire-damp. Bichel, who is himself a manufacturer of certain types of explosives which pass the tests that are laid down in Germany and certain other Continental countries, deprecates the difference of the English regulations, and expresses the hope that our test will be abolished in consequence of the investigations of the "Bobbinite" Commission and the Royal Commission on Safety in Mines, and that we shall adopt the Continental system.

The investigation of the relative values of different manures is a problem of such complexity that additional investigations are always to be welcomed. The number of factors that may be altered are so many—soil, climate, plant, and treatment—that the fertiliser which is most effective under one set of conditions is not necessarily so under another. In the *Zentralblatt für die Kunstdünger-Industrie*, for May 21 and June 7, there is an account of some comparative experiments carried out by J. Sebelien with the new fertilisers, nitrate of lime and calcium cyanamide. The results showed that under the selected conditions nitrate of lime was in most cases equal or nearly equal to Chile saltpetre, and better than ammonium sulphate, whereas the cyanamide had comparatively little effect.

Indian Notes.

Market movements (Calcutta, June 5) are reported as under:—

Castor oil cake.—The market is very firm. For export, quotations are Rs.6.4 for picked and Rs.5.15½ for average quality, per bag of 2 maunds, f.o.b. Stocks and supplies continue very moderate.

Bone meal.—The market is quiet and very little doing; sellers, however, remain firm and quote Rs.73.0 for quality required by the New Zealand Government, Rs.68.0 for usual standard of steamed quality, and Rs.62.0 for usual standard of unsteamed quality, per ton of 20 cwt., f.o.b., guaranteed 4½% ammonia and 52% tribasic phosphate of lime, for near shipment. Bone dust is very steady at Rs.54.0 for steamed, and Rs.52.0 for unsteamed quality, guaranteed 3½% ammonia and 40% tribasic phosphate of lime, for near and early deliveries. Offerings continue moderate.

Beeswax (season, September to June).—Notwithstanding the scarcity of export orders, and owing to the short supplies being barely sufficient for ordinary local requirements, the market keeps very stiff. Quotations: Rs.78.0 to Rs.80.0 for refined quality, and Rs.70.0 to Rs.78.0 for raw, per bazar maund weight, loose, for prompt delivery. No sales for Europe are reported.

Saltpetre (season, September to June).—Market is dull, but sellers keep rather firm and do not reduce their prices. For refined Furreckabad Rs.8.8 to Rs.9.0, and for ordinary 5% refraction quality Rs.8.0 to Rs.8.2 per factory maund weight, loose, for near and early deliveries. Supplies are moderate. Offers of superior lower refraction qualities are small, as usual, at this period of the season.

Borax.—The market has kept very steady but without animation; quotations are Rs.14.12 to Rs. 15.8 per bazar maund weight, loose, prompt delivery. Stocks and supplies are small.

Turmeric (season, March to September).—Bengal turmeric, suitable for Europe, is quoted Rs.6.10 per bazar maund weight, loose, for June-July deliveries.

The salt market closed easy. Local stocks held, in maund weights, were reported ex Liverpool 393,826, Hamburg 199,386, Aden 99,163, Saliff 138,189, Spanish 227,853, Port Said 108,565, and Bombay 77,755. Quotations per maund were: Liverpool Rs.53.0 to Rs.62.0, Hamburg Rs.55.0 to Rs.58.0, Aden Rs.51.0 to Rs.63.0, Saliff Rs.50.0 to Rs.70.0, Spanish Rs.53.0 to Rs.67.0, Port Said Rs.57.0 to Rs.66.0, and Bombay Rs.65.0.

Castor oil.—There has been some movement in this market, and about 5,000 packages have been placed on the basis of Rs.19.8½ for Fine Pale, Rs.13.12½ for good seconds, and Rs.13.2½ for thirds, in cases, per bazar maund weight, f.o.b., for this and next month's deliveries. Sellers generally are holding off for higher prices. Market closes quiet. Offerings are very moderate.

Cocoanut oil.—Market quieter, rates easier; for export, prices are Rs.22.14½ per bazar maund weight, f.o.b. Stocks are light, but supplies have been increasing slowly.

The cultivation of camphor is being tried in certain forests of the Kanard range by the Bombay Forest Department. A difficulty exists in obtaining the seeds in any quantity, as the Japanese, who possess the true species—*cinnamomum camphora*—have always endeavoured to prevent the export of the seed. In Japan, the seed costs 2s. 6d. per lb. November is said to be the month to obtain fresh seed, and as it does not last long, it is sent by post and sown immediately on arrival.

Gopeng Tin Co., Ltd.—The directors have declared a dividend of 1s. 6d. per share.

Fire at an Oil Works.—On Sunday evening last, a serious fire broke out at the works of Messrs. Dawson, Ltd., oil and chemical manure manufacturers, Grimsby, the buildings being gutted, with the exception of the drying chamber.

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THE ALKALI INSPECTOR'S REPORT.—IV.*

SALT WORKS.

The amount of muriatic acid escaping into the atmosphere from this class of work is maintained at a figure well within the maximum prescribed by the Provisional Order Confirmation (Salt Works) Act, 1884. The limit is the same as that prescribed for alkali works, viz., one-fifth of a grain of muriatic acid per cubic foot of chimney gases. The average escape is 0.055 grain.

The number of such works is now 53, as compared with the same number in 1905. The vacuum method of evaporation of brine has attained considerable development in two large works. In these no muriatic acid gas is evolved.

Dr. Attleck continues to speak with approval of the developments in the use of Mond producer-gas as fuel at one work. The expectations previously formed as to economy appear to have been realised. The even heating of the gas-fired pans contributes in maintaining at a satisfactorily low figure the escape of muriatic acid at this work.

From the official returns on Mines and Quarries (Part III.), the total output of white salt produced from brine and salt contained in brine used for making alkali by the ammonia-soda process was, in 1905 (the latest date for which returns are issued), 1,658,364 tons, as compared with 1,703,805 tons in 1904. There was again increase recorded in Lancaster and Durham, but heavier decreases occurred in Chester and Stafford, and also in Yorkshire on the Middlesbrough side of the River Tees.

At the commencement of 1907, by the operation of the new statute the repeal is effected of the Act to confirm the Provisional Order issued by the Local Government Board in 1884 with regard to salt works.

Salt works will for the future be classed as Muriatic Works (*c*), paragraph 8 of the first schedule. This class of work is therefore subject to exactly the same obligations as hitherto since 1885.

The chief statutory obligations are rehearsed in Sections 6 and 7 of the 1906 statute. It will be noted that the definition of salt works excludes those in which salt is obtained without evolution of muriatic acid in the process for its extraction from brine.

ARSENIC WORKS.

There is considerable activity in this class of work at the present time; moreover, new sources of supply have been developed during the past year, by which some addition, though not a large one, has been made to the quantity of white arsenic available for industrial use. The large contributor still remains the output from Cornwall, which in 1906 amounted to 1,599 tons, as compared with 1,528 tons in 1905.

Dr. Fryer, in his district report, gives some interesting statistics concerning the world's production of arsenic.

The number of works for production of arsenious and arsenic acids has increased during the year to 35, compared with 27 in 1905.

As regards arsenious acid, or white arsenic, the number of such works registered in Cornwall and South Wales fell in 1905 to 19, the lowest figure recorded since 1893, when such works were first scheduled under the Alkali Act, 1892.

In the Widnes and Runcorn district 3A, on the other hand, the number has increased from 1 to 5 by the operations of new and patented processes of manufacture by which arsenious acid is recovered in very pure form from arsenical vitriol produced from highly arsenical pyrites. Improvements in the efficiency of the process have resulted from the careful study devoted to it by those responsible for its development, so that its extension during 1907 is assured.

As, in the operation of the process the arsenic is volatilised from the acid as arsenious chloride, very special precautions are necessary in the designing and working of plant on account of the poisonous properties of the substances dealt with.

In concluding his report, the Chief Inspector says:—"Although not coming strictly within the year under review, the retirement of Dr. Attleck from the public service may appropriately find regretful mention here, the report he presents on pp. 82-90 being the last that he will make of the work of his department, his retirement, dated February 9, occurring during the progress of preparation of this report. Since 1884 he has had charge of the important district of Widnes and Runcorn, where an especial amount of responsibility rests upon the inspector owing to the magnitude of scale of chemical manufactures conducted there, and to the nature of the gases evolved. Before his appointment Dr. Attleck had already gained wide experience, which he was enabled to apply with advantage to the various problems that confronted him. His reports constitute a valuable record of progress over a period approaching a quarter of a century; in these, moreover, he has borne constant testimony to the loyal co-operation of the manufacturers in the administration of the Acts, and in the endeavours made to reduce to a minimum the escape of noxious and acid gases from the various scheduled processes conducted. I have personally received much assistance from the collaboration and criticism on difficult problems that his matured experience enabled him, always willingly, to render."

*The 43rd Annual Report on Alkali, etc., Works, by the Chief Inspector. (See *C. T. J.*, Nos. 1,046, 1,048, and 1,049, pp. 529, 580, and 603.)

MINERALS IN GREECE.

IN his report on the mining trade of Greece for 1906, Consul Mr. MacDonell observes that British merchants might, with profit, turn their attention to the mineral deposits of Greece. During 1906 exports of chrome ore have taken place from the Lamia district, and both in this district and adjacent islands are important deposits of chrome hitherto unworked. The ores show 30% to 50% oxide of chrome and average about 4% silica. Large deposits of magnesite and various other iron ores exist in Enboca and on the mainland, all of which, in the near future, will be of value. Copper is also found in small quantities.

Mr. Vice-Consul Desposito reports that, in Laurienne, mining operations have been carried on during the last year. The actual output has exceeded that of 1905. The surface yield for 1906, after mechanical dressing, was reduced to 73,348 tons; this, added to the underground ores, makes up a total of 180,102 tons, which yielded at the foundries 12,127 tons of metallic lead, with an average, per ton, of 1,504 to 1,793 grammes of silver. The following table shows the quantity of minerals and metallic lead exported during 1900-06.

	1900.	1901.	1902.	1903	1904.	1905.	1906.
	Tons	Tons.	Tons.	Tons.	Tons	Tons.	Tons.
Silver pig lead ..	16,783	16 458	16,368	15 9 8	15 370	13 397	12 387
Raw and roasted manganese iron ore	234,94	199 135	152 253	147.475	22 125	121,585	130,652
Hematite iron ore..	171,287	113,375	113,202	121,380	100,045	96,929	111,735
Roasted calamine or zinc ore	13,519	15,717	19 445	12,549	21,034	20.051	23,732
Speiss .	1,632	2,416	2,500	2 156	484	..	3,068
Lead smokes ..	2,247	2 197	1 896	2,121	1 384	..	1,553
Blende of lead and zinc ore .. .	1,424	455	1,418	732	366	..	920
Total	442,041	349,753	307 087	302 361	263,778	253,962	284,047

UNITED INDIGO AND CHEMICAL COMPANY.—The directors of this company have decided that it was not advisable to pay the preference dividend on the 30th ult., but to wait until the accounts for the year ending the 30th ult. are made up and the annual meeting held.

FRENCH REVENUE RETURNS.—The revenue from taxation and monopolies during May amounted to 232,878,500f., showing an increase of 1,432,700f. compared with the Budgetary estimate for the month, and an increase of 9,520,900f. as compared with the receipts for May, 1906. The revenue for the first five months of the present year shows an increase of 93,718,800f. compared with the Budgetary estimate.

PHOSPHATE IN JAPAN.—H.M. Consul at Shimonoseki reports that a very interesting feature of last year's import trade at that port was the arrival of the first shipment of phosphate rock from Christmas Island. During the year a company, the Osaka Ryuso Kabushiki Kwaisha (the Osaka Phosphate Company), was formed with the object of manufacturing superphosphates for fertilising purposes. Phosphate works were established at Fuku-ura on Hikoshima, an island at the western entrance to the Straits of Shimonoseki; and the first shipment of phosphate rock from Christmas Island arrived on August 20. The amount imported during the year was 5,459 tons in quantity and £18,255. in value.

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Analytical Notes.

A NEW METHOD FOR ESTIMATING THE ALKALINITY OF ASHES.*

By K. Farnsteiner (*Zeit. Untersuch. Nahr. Genussm.*)

It is well known that the estimation of the alkalinity of an ash by direct titration is considerably influenced by the presence of phosphates, this influence being due to the effect of the phosphates on the indicator used, and also, if the alkalinity of the soluble ash be under consideration, to the varying solubilities of these salts. To overcome this difficulty, the author proposes a method in which the ash is dissolved in a known volume of standard acid; the phosphates are precipated by the addition of calcium chloride and a known quantity of ammonia, and the excess of ammonia is then titrated back. The alkalinity of the ash is calculated from the equation, $a = S + s - n$, where a is the weight (in grams) of the ash, S the number of c.c. of $\frac{N}{1}$ acid used for dissolving the ash, s the number of c.c. of $\frac{N}{1}$ acid used in the final titration, and n the number of c.c. of $\frac{N}{1}$ ammonia added. The details of the process are as follows: From 0.2 to 0.3 gramme of the dry ash is gently boiled for about three minutes in a flask with 20 c.c. of $\frac{N}{2}$ hydrochloric acid and about 40 c.c. of water. When cold, the contents of the flask are rinsed into a stoppered graduated cylinder, 100c.c. of a solution containing 5% of dry calcium chloride and 10% of ammonium chloride are added, and then 20 c.c. of $\frac{N}{2}$ ammonia. The volume of the liquid is made up to 100 c.c. with water free from carbon dioxide, and, after mixing its contents, the cylinder is placed aside overnight. Finally 50 c.c. of the clear supernatant solution are pipetted off and titrated with $\frac{N}{10}$ hydrochloric acid, using methyl orange as indicator.

The results obtained by the above method are usually much lower than those given by the direct titration method, ashes containing much pyrophosphate even exhibiting a "negative" alkalinity.

THE ESTIMATION OF FREE ACIDS IN SUPERPHOSPHATES.*

By J. van Dormael (*Bull. Soc. Chim. Belg.*)

The following method, embodying those of Herzfelder and Thomson, is recommended as rapid and exact: 5 grammes of the sample, previously dried for three hours in the hot-water oven, are shaken in a stoppered flask with 100 c.c. of ether or alcohol (preferably the former) at intervals during a period of three hours. The extract is then filtered, 50 c.c. of the clear filtrate evaporated to dryness, the residue taken up with water, and the liquid filtered if necessary. The solution is now treated with a few drops of methyl orange, and titrated with $\frac{N}{4}$ sodium hydroxide solution until the colour changes to yellow, after which the titration is finished with phenolphthalein as indicator. The reactions in the two titrations are as follows:

(1.) $H_3PO_4 + NaOH = H_2NaPO_4 + H_2O$.
(2.) $H_2NaPO_4 + NaOH = HNa_2PO_4 + H_2O$.

In the absence of any considerable amount of sulphuric acid the whole of the sodium hydroxide consumed may be regarded as neutralising only free phosphoric acid. As a rule, free sulphuric acid is negligible; of twelve samples examined by the author, it was present in only two, and then in quantities of less than 0.5%.

A NEW METHOD OF ESTIMATING AMMONIA IN WATER.*

By A. Buisson (*Journ. Pharm. Chim.*)

The method is based upon the fact that, on adding sodium carbonate to the solution of an ammonium salt containing mercuric chloride in the proportion of 5 molecules of mercuric chloride to 2 of the ammonium salt, the ammonia is quantitatively precipitated.

The white amorphous precipitate has the composition $CO_3(Hg_5N_2Cl_2)_3O + 3H_2O$; it loses water when dried in a current of air at 100° C., meanwhile turning yellow. It is not altered by water at the ordinary temperature, but begins to decompose at about 80° C.,

For the determination of ammonia in water by means of this reaction, a litre of the sample is rendered alkaline with 5 c.c. of pure sodium hydroxide solution (1 : 4) and distilled, and the distillate received in 10 c.c. of 1% hydrochloric acid. The distillation should continue for at least an hour, and the amount of distillate should be rather more that 100 c.c. It is diluted to a litre, and shaken with 10 c.c. of a 5% solution of mercuric chloride, and the ammonia precipitated by the addition of 10 c.c. of a 15% solution of sodium carbonate. After standing for twenty-four hours, the precipitate is collected on a filter of glass wool in a Soxhlet's tube, washed with 5 c.c. of water, dried at 100 C., and weighed. The weight of the dry precipitate multiplied by the factor 0.03 gives the amount of ammonia in a litre of the water. If the proportion of ammonia in a water is less than 1 mgm. (as shown by Nessler's reagent), the precipitation should be made by the addition of 1 c.c. of the reagents to the 100 c.c. of distillate without dilution to a litre. In test experiments 0.158 mgm. and 9.53 mgms. of ammonia in the form of pure dry ammonium chloride were added to pure water, and 0.149 and 9.51 mgms. found respectively.

* *Analyst* abstract.

SEPARATION OF COPPER FROM OTHER METALS BY MEANS OF ACETYLENE.*

By H. Erdmann and O. Makowka (*Zeit. anal. Chem.*)

Copper may be readily separated from other metals by means of acetylene, cuprous acetylide being formed when acetylene is passed into an ammoniacal or feebly acid solution of a cuprous salt. Cupric salts must be reduced by means of hydroxylamine hydrochloride in ammoniacal solution before proceeding with the precipitation. For instance, a weighed quantity of copper sulphate is dissolved in water, ammonia is added, and then sufficient of the reducing agent to decolorise the solution. Acetylene is passed into the mixture for about twenty minutes, the precipitate is collected on a filter, washed with water, and then dissolved in nitric acid; the solution is evaporated to dryness, and the residue weighed, after ignition. If it be desired to separate copper from mercury or silver, it is necessary to remove these two metals before precipitating the copper with acetylene, in which case mercury is preferably separated by means of phosphorous acid and silver by hydrochloric acid. Copper is best separated from calcium, strontium, barium, magnesium, cadmium, zinc, aluminium, iron, and lead in dilute acetic acid solution, and from chromium, manganese, nickel, cobalt, bismuth, antimony, arsenic, and tin, in ammoniacal tartrate solution. The separation of copper from palladium is based on the fact that palladium is precipitated in strongly acid (hydrochloric) solution by acetylene (*Analyst*, 1904, 29, 382). This property of palladium enables it to be separated from platinum and iridium. Gold is also precipitated from acid solutions by acetylene, and in the case of a mixture of gold and palladium salts, both metals are precipitated together, being afterwards separated by dissolving out the palladium with hot nitric acid.

* *Analyst* abstract.

NITRATE OF SODA.

THE June shipments to Europe, to some extent curtailed by the lock-out at Taltal, were only 52,100 tons, against 70,500 tons last year, the quantity "loading" on 1st inst. being 114,500 tons, compared with 102,650 tons twelve months ago. Although the imports were nearly twice as large as in June, 1906, the European deliveries are modestly computed at 74,680 tons, or only 2,180 tons more than last year, the total "visible supply" coming out at 291,460 tons, compared with 276,550 tons a year ago. The surplus is thus reduced to the insignificant figure of 14,910 tons, but "stocks at ports" are officially stated at 132,960 tons, against 55,820 tons at this time last year, and the "invisible" stocks at interior points are admittedly considerably larger. The market is devoid of interesting features, spot business being conspicuous by its absence, while transactions afloat are limited to a single cargo of refined quality during the past fortnight. Prices are still nominal, but rather easier, prompt nitrate being quoted at 10s. 10½d. per cwt. in Hamburg, and next spring delivery 11s. 3d. On the West Coast the quotation is about 9s. 1d. per quintal, f.o.b., for summer shipment, with no business passing. Last month's exports of nitrate from Chili to the United States beat all previous records, and are causing much jubilation in trade circles. The past half year will be reviewed in an early issue of this *Journal*.

Beet Sugar.—Since the announcement of the Government policy with regard to the Brussels Sugar Convention, the project for the establishment of a beet sugar factory in Lincolnshire has been abandoned.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Ferric Sulphate. W. Crowther. 13 946. June 17.
Sulphurised Dyestuffs. O. Imray. 13,948. June 17.
Formic Acid and Acetic Acid. J. Raschen, O. L. Higgins, and the United Alkali Co., Ltd. 13,952. June 17
Formates. J. Raschen, C. L. Higgins, and The United Alkali Co., Ltd. 13,953. June 17.
Nitric Acid Manufacture. G. W. Johnson. 13,954. June 17.
Gas Producers. O. J. Brückmann. 13,955. June 17.
Smelting Pyritic Copper Ores. J. T. Carrick and B. S. Pattison. 13,956. June 17.
Regeneration of Caoutchouc. J. F. Dupont. 13,976. June 17.
Vanadium Alloys. S. O. Cowper-Coles. 13,978. June 17.
Oxide of Nitrogen. F. Hausser. 13 989. June 17.
Evaporators. T. Suzuki. 14,024. June 18.
Treatment of Complex Sulphide Ores. H. R. Angel. 14,055. June 18.
Casein Compounds. B. B. Goldsmith. 14,098. June 18.
Diphenylamine Derivatives. A. G. Bloxam. 14,167. June 19.
Azo Colouring Matters. P. A. Newton. 14,248. June 20.
Smelting of Antimony Ores. T. Barton and T. B. McGhie. 14,279. June 20.
Sodium Sulphide. T. Barton and T. B. McGhie. 14,280. June 20.
Electric Hydrogen and Oxygen Generators. S. O. Cowper-Coles. 14,285. June 20.
Bunsen Burners. T. Thorp. 14,317. June 21.
Superheaters. E. Jacobsen and F. H. Livens. 14,331. June 21.
Explosive Compositions. H. W. Lake. 14,366. June 21.
Borneol and Camphor. O. L. A. Dubosc. 14,379. June 21.
Electrolytic Production of Zinc from Zinc Sulphate Solutions. Siemens and Halske Act. Ges. 14,372. June 21.
Cement Manufacture. S. O. Cowper-Coles. 14,389. June 21.
Distributing Apparatus for Filters. S. H. Adams. 14,410. June 22.
Distillation of Sewage Sludge for the Recovery of Ammonia. G. Watson. 14,414. June 22.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Hydrogen Peroxide. Wolfenstein. 13,828.
Preparation of Pure Methane. Sabatier. 13,861.
Electric Furnaces. De Ferranti. 13,949 and 13,949a.
Electric Plant for Producing Chemical Reactions. Moscicki. 14,259.
Casein. Betz. 14,319.
Amorphous Carbon. Machtolf. 14,601.
Regenerator Furnaces. Brooke. 14,637.
Filter-press Plates. Koeber and Koeber. 16,827.
Products of Ortho-nitro-phenylglycollic Acid and Isatine. Johnson. 17,614.
Discharging Apparatus for Superphosphate Pits. Neech. 17,512.
Azo Colouring Matters. Newton. 17,743.
Sulphur from Sulphuretted Hydrogen. Tyers, Hedley, and the United Alkali Co., Ltd. 25,976.

1907.

Borax Manufacture. Liverpool Borax Co. and Fry. 4,193.
Mixing and Condensing Liquids, etc. Guttmann. 4,406.
Funnels. Liebermann and Gutman. 4,664.
Regenerative Coke Ovens. Collin. 7,650.
Camphor Manufacture. Basler Chemische Fabrik. 9,857.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Method of Burning or Calcining Calcareous and Argillaceous and Mineral Substances in Rotary Furnaces or Kilns. B. H Thwaite. 29, Great George Street, Westminster, London, S.W. British Patent, 15,677. July 11, 1906.

The inventor claims:—(1.) In the burning or calcining of calcareous and argillaceous and mineral substances in rotary furnaces or kilns, the application of powdered carbonaceous fuel injected into the combustion chamber to meet a flow of superheated air and a flow of producer gaseous fuel in the manner and for the purpose. (2.) The increasing of the temperature of combustion of producer gaseous fuel and powdered coal or either of them by the introduction of preheated air to support and increase the temperature of combustion for the effective and economic burning of cementitious materials in rotary kilns, the preheating of the air being effected by diverting part of the gaseous fuel for such purposes. (3.) The combination with rotary furnaces or kilns for burning or calcining cement and allied purposes, of the means or apparatus employed for securing a highly intense and lengthened flame extending through the kiln, as accompanying the specification.

Improved Process for Oxidising Liquids with Aid of Electric Discharges. A. de Hemptinne, 51, Rue Basse des Champs, Gand, Belgium. British Patent, 13,023. June 5, 1906.

The inventor observes that hitherto the oxidising properties of ozonised oxygen or air have been applied to liquids by first ozonising the oxygen or air in an apparatus worked by the silent electric discharge, and then bringing the ozonised gas into contact with the liquid on which it is to act. The gas and liquid are brought into contact either by bubbling the former through the latter, or by finely pulverising the gas and liquid in a special chamber.

According to the present invention, the electric discharge is caused to act directly on a thin layer, preferably in motion, of the liquid to be treated while the latter is in direct contact with the gas. The electric discharge traverses the thin layer of liquid and the gas, which, being ozonised, instantaneously oxidises the liquid, this action being particularly rapid and energetic.

A suitable apparatus for the treatment of liquids according to the invention comprises a cylinder within which are mounted, preferably co-axially with the cylinder, a series of parallel plates, alternately of an electrically conducting material such as metal, and of electrically insulating material such as glass. These plates are situated some millimetres apart; the metal plates which are of uneven number in the series of metal plates are electrically connected with each other, and with one pole of a suitable source of electrical energy, the metal plates of even nymber being similarly connected with each other and the other pole of the source. The interior surface of the cylinder is provided with a number of gutters, which, as the cylinder is rotated, continually carry up the liquid and discharge it over the upper part of the plates so as to form on the latter thin moving layers of liquid. The cylinder is filled with oxygen or air and the electrical energy is supplied; the oxygen is ozonised and oxidises the liquid. The apparatus is stopped from time to time to receive a fresh charge of oxygen, and is provided with the necessary cocks for introducing oxygen and drawing off the liquid. The apparatus may be heated.

The mode of carrying out the invention may be varied; such as by placing the insulating plates in contact with the conducting plates; or by varying the manner in which the plates are sprinkled with the liquid, for instance, by having fixed plates and sprinkling these at their upper part. The process is applicable for transforming fish oils into dégras, for purifying waters, for ageing alcohol, for transformation and oxidation of oils, and for the manufacture of perfumes.

Improvements in Apparatus for Treating Minerals by Electrolysis. N. H. M. Dekker, 29, Rue de la Soudière, Paris. British Patent, 5,887. March 11, 1907.

This invention relates to apparatus for electrolytically treating mineral comprising horizontal anodes and cathodes alternately arranged in a receptacle having an orifice for the discharge of the gases evolved, with insulators placed between the consecutive elements or couples, alternate electrodes being provided with frames or upwardly projecting walls to form boxes for the mineral to be treated, and insulating supports or distance pieces being placed on said frames to support the electrodes between the framed electrodes.

BIRTHDAY HONOURS.—The list of honours issued on the occasion of the King's birthday contains the following appointments:—Peerage: Right Honourable Sir James Kitson, Bart., M.P. (President of the Iron and Steel Institute, 1888-90). Baronet: Sir W. H. Holland, M.P. (formerly President of the Associated Chambers of Commerce of the United Kingdom). Knighthoods: Principal James Donaldson (University of St. Andrews). K.C.B.: Prof. Edwin Ray Lankester, LL.D., F.R.S. Order of the Indian Empire: Major David Melville Babbington (Royal Artillery, Superintendent of the Cordite Factory, Wellington).

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Stock and Share List.

WEEK ENDING JULY 3, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO					
				Thursday, June 27.	Friday, June 28.	Saturday, June 29.	Monday, July 1.	Tuesday, July 2.	Wednesday, July 3.
120,000	1	1	Bell's Asbestos ... ... ord.	36/3	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞
	Stock	100	Borax Consolidated 4½% deb. stock red.	110 112	110 112	108 110	108 110	108 110	109
80,000	10	10	Do. ... ... pref.	11 9/32	11⅛ 11⅜	11⅜	11¼	11⅛ 11⅜	11¼
1,356,477	1	1	Bradford Dyers ... ... ord.	24/4½	24/1½	24/1½	24/1½	24/1½	24/- 24/3
1,500,000	1	1	Do. ... ... 5% c.p.	21/6	21/-	21/-	21/-	20/9 21/-	20/9
35,000	10	10	British Dyewood ... ... ,,	4½ 5	4½ 5	4½ 5	4½ 5	4½ 5	4½ 5
600,000	1	1	British Oil and Cake Mills ... ord.	12/- 12/6	12/- 12/6	12/- 12/6	12/- 12/6	12/- 12/6	12/4½
235,000	1	17/-	Broxburn Oil, Ltd. ... ... ,,	42/9	43/3	43/3	43/3	43/3	42/-
10,000	10	10	Do. ... ... 6% c.p.	12 5/16	12 5/16	12 5/16	12 5/16	12 5/16	12 5/16
1,472,154	1	1	Brunner, Mond, and Co. ... ... ord.	5 11/32	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜
82,678	10	10	Do. ... ... 7% pref.	17⅜ 17⅝	17⅜ 17⅝	17 1/16	17	17 17¼	17 17¼
96,000	5	5	Bryant and May ... ... c.p.	12⅞	12 27/32	12½ 13	12⅝	12½ 13	12½ 13
40,000	10	10	Buxton Lime Firms ... ... ord.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ,,	19/-	19/-	19/-	19/-	19/-	19/-
450,000	1	1	Castner-Kellner ... ... ,,	24/3 24/6	24/3 24/6	24/6 25/-	24/6 25/-	24/6 25/-	24/6 25/-
16,000	5	5	Clayton Aniline ... ... ,,	3 3¼	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
12,000	5	5	Do. ... ... 6% c.p.	3⅞ 4⅛	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
6,000	10	5	Cleveland Salt ... ... 6% m.p.	2½ 3	2½ 3	2¼ 3	2½ 3	2¼ 3	2½ 3
20,000	10	10	Crosfield, J., and Sons ... ... c.p.	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27/- 27/6	27/- 27/6	27/- 27/6	27/- 27/6	27/- 27/6	27/- 28/-
5,000	10	10	Do. ... ... 6% c.p.	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 6/16
£15,223,235	Stock	100	Gas Light and Coke Co. ... ... ord.	92½	93¼	93½	94	94	93½ 94½
	10	10	India Rubber Co. ... ... ,,	15 16	15 16	15 16	15 16	15 16	15 16
	5	5	Lagunas Nitrate ... ... ,,	3⅛ 3⅜	3⅛ 3⅜	2⅞ 3⅛	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	8	8	8	8	8	8
	5	5	Lautaro Nitrate ... ... ,,	11½ 12	11½ 12	11½ 12	11½ 12	11⅝	11¼ 11¾
200,000	10	10	Lever Bros. ... ... 5% c.p.	10 13/16 10 15/16	10 9/16 10 11/16	10 13/16	10 13/16	10 21/32	10 9/16
400,000	10	10	Manchester Ship Canal ... ... ord.	23/- 23/6	22/-	23/-	23/1½	23/6 24/-	23/6 24/-
400,000	10	10	Do. ... per 5% pref.	32/9 33/3	33/- 33/6	33/- 33/6	33/-	33/3 33/9	33/3 33/9
120,000	1	1	Mandleberg ... ... ord.	29/3 29/9	24/3 24/9	29/6	29/3 29/9	29/9	29/3 29/9
185,145	1	1	Mason and Barry ... ... ,,	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	61/3	2⅞ 3⅛	60/-
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	1/10½	1/10½	1/10½	1/10½	1/10½	1/6
110,007	10	10	Nitrate Railways ... ... ,,	12½ 13	12½ 13	12½ 13	12⅜ 12⅝	12½ 13	12¾ 13¼
228,540	10	10	Nobel Dynamite Trust ... ... ,,	15 6/16	15⅜	15⅜	15½	15½	15 16
	10	10	Do. share warrants	15⅜	15⅜	15½	15½	15½	15¼ 15¾
200,000	1	17/-	Oakbank Oil, Ltd. ... ... ord.	40/-	40/-	40/-	40/-	40/-	39/-
	1		Pears, A. and F. ... ... ,,	1⅜ 1½	29/4½	1⅜ 1½	1⅜ 1½	1⅜ 1½	29/8
70,000	10	10	Pease and Partners ... ... ,,	12⅜ 12⅝	12⅜ 12⅝	12⅜ 12⅝	12⅝ 12⅞	12⅞ 13⅛	12⅞ 13⅛
37,500	16	16	Price's Patent Candle ... ... ,,	33	33	33	33	33	32 34
130,000	1	17/-	Pumpherston Oil, Ltd. ... ... ,,	9½	9 1/16	9½	9 7/16	9 7/16	9 7/16
10,000	10	10	Do. ... ... 6% c.p.	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
325,000	5	5	Rio Tinto ... ... ord.	80¾	83⅞	83½	83⅝	83⅝	84¼
2,500	7½	7½	Robin and Houston, Ltd. ... ... ,,	5	5	5	5	5	5
239,479	1	14/2	Sadler and Co. ... ... ,,	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
200,000	4	4	Salt Union ... ... ,,	16/- 16/6	17/-	17/6	17/6	17/7½	17/1½
100,000	6	6	Do. ... ... 7% n.c.p.	3¾ 3 13/16	80/-	4 3/16 4 5/16	4 3/16 4 5/16	80/3	80/9
£148,000	1	1	Sanitas Co., Ltd. ... ... ord.	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛
	4	4	San Jorge Nitrate ... ... ,,	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜
	1	1	Schibaieff Petroleum ... ... ,,	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas	118	117 120	117	118	119	118 119
45,000	10	10	Steiner, F., and Co. ... ... 5% c.p.	9 9⅛	9 9⅛	8¾ 8⅞	8¾ 8⅞	8⅝ 8⅞	8¾ 8⅞
625,000	2	2	Tharsis Sulphur and Copper ... ,,	6⅝ 6⅞	6¾ 7	6½ 6¾	6⅝ 6⅞	6⅝ 6⅞	6¾ 7
289,343	10	10	United Alkali ... ... ord.	84/-	84/-	83/6 84/-	83/6 84/-	83/6	83/-
282,524	10	10	Do. ... ... 7% pref.	11¼ 11½	11¼ 11½	11¼ 11½	11¼ 11½	11¼ 11½	11 5/32
80,000	1	1	United Indigo and Chemical ... ord.	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9
66,666	5	5	Willans and Robinson ... ... ,,	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝
210,000	1	1	Woolcombers ... ... 7% c.p.	20/6 21/6	21/- 22/-	20/6 21/6	20/6 21/6	21/- 22/-	20/6 21/6
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.	1/9 2/-	1/9 2/-	1/9 2/-	1/9 2/-	1/9 2/-	1/9 2/-
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,	72/9	72/-	72/-	72/-	72/-	72/-

The Revenue Returns.—The Treasury returns for the first quarter of the financial year show a total revenue of £40,095,837., with a deficiency of £2,018,455. The quarter, as compared with the corresponding quarter of the preceding year, shows a net increase of £813,701. Customs showed a decrease of £236,761.; Excise, an increase of £92,603.; estate, etc., duties, an increase of £148,921.; stamps, an increase of £14,000.; house duty, an increase of £50,000.; property and income tax, an increase of £473,000.; Post Office, £110,000.; Telegraph service, an increase of £40,000.; receipts from Suez Canal shares and sundry loans, an increase of £2,500.; and miscellaneous, an increase of £119,438.

Secret Commissions and Bribery Prevention.—At a meeting of the Council of the Secret Commissions and Bribery Prevention League, held on July 2 at the London Chamber of Commerce, Sir Edward Fry was elected as first President, and the Archbishop of Canterbury, Earl Fortescue, Lord Avebury, Sir W. H. Holland, Sir W. Mather, and Mr. David Howard were elected Vice-Presidents. Mr. David Howard, who presided, was able to report that the League had made considerable progress, and was obtaining an increasingly influential membership. Mr. R. M. Leonard having been recently appointed secretary, the offices of the League have been removed now to 3, Oxford Court, Cannon-street, London, E.C.

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OBITUARY.

We regret to record the death, which took place on Sunday last, of Mr. Frederick Herbert Gossage, J.P., the head of the firm of William Gossage and Sons, soapmakers.

The *Liverpool Daily Post* says :—" By the death of Mr. Gossage a serious public loss has been sustained by both Liverpool and Widnes. The business which he controlled, now of world-wide reputation, was established by Mr. William Gossage, a manufacturing chemist of distinguished ability. Mr. F. H. Gossage was the third son of Mr. W. Gossage. He joined his father in the conduct of the business, which was carried on at Widnes. Mr. F. H. Gossage inherited his father's insight and initiative. At different times he patented important new processes, which introduced still further economics into the manufacture. The association, however, in which his name will long deserve to be remembered is the development of those facilities now offered by Liverpool University for practical training in science, to obtain which, not many years ago, chemists more especially were obliged to have recourse to German universities. In a great centre of chemical industry like Liverpool this was something of a reproach, but it has been most generously removed. Mr. Gossage, Sir John Brunner, Dr. Ludwig Mond, Mr. T. Sutton Timmis, Mr. E. K. Muspratt, and Mr. W. H. Lever have collectively placed the chemical department of the University abreast of the most advanced science. Towards this great work Mr. Gossage, in association with Mr. Timmis, contributed the Quantitative Laboratory, a necessary and integral part of the design. The laboratory was given as a memorial—one particularly fitting—of the late Mr. W. Gossage. It was built at a cost of £7,000., and formally opened in December, 1896. The other gentlemen already named contributed the Specific Laboratory, the outfit of the metallurgy department, the hydraulic apparatus, and other necessary accessories. Personally, Mr. Gossage was, besides his distinguished attainments as a chemist, a well-read and cultivated man, singularly upright and fair-minded, and in cases of which the public knew nothing his benevolence and generosity were unstintingly exercised. He was a genial host, and his residence at Camphill, Woolton, gave evidence of his refined taste and discriminating love of art. Mr. Gossage, who was twice married, leaves a widow, six sons, and three daughters."

The death also occurred last week of Mr. Hamor Lockwood, well known in the Manchester district as a manufacturing chemist.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

B.W.—We suggest that you address your letter to the gentleman mentioned, under cover to the Editor, Professor Schuberg, *Zeitschrift für Chemische Aparatenkunde*, Goethstrasse 8, Charlottenburg, Germany.

A.M.—Thanks for your letter. We are transmitting the information to our subscriber.

W.W.B.—We note contents of yours of the 2nd inst. MSS. also to hand.

W.J.K.—Thanks for yours of the 3rd. We note your second paragraph, which we will keep in view.

The Royal Agricultural Show was held last week at Lincoln, and was opened by His Majesty the King. The attendance was large, and, together with the record at the Derby Show last year, completes the contrast with the very small figures in London during the disastrous permanent show-yard experiment. The exhibits in the various classes were satisfactory, and, on the whole, the success of the 1907 Show marks a further stage in the re-establishment of the prosperity of the Royal Agricultural Society.

Nitrate Statistics.—The Permanent Nitrate Committee, in their public statistical circular for July, state the shipments of nitrate of soda as follows :—(1.) Total exports to Europe, June, 1,146,300 quintals. (2.) Imports, Europe, June, 135,380 tons. (3.) Deliveries, Europe, June, 74,680 tons. (4.) Visible supply, Europe, July 1 : Stocks and afloat, 291,460 tons.

NEW YORK PRICES CURRENT.

June 17, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8¾
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7¼
Ammonia, Carbonate, lump	,,	0 7¾
,, Muriate, grey	,,	0 6¼
,, ,, white electrical	,,	0 6¼
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 12½
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 30
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7½
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 15
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10¾
Sulphur, Brimstone (best thirds)	per ton	22 0

Market Reports.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols quiet, with values given at 9d. for 90's, and 9½d. to 9¾d. for 50-90's. Crude tar, 16s. to 20s. per ton, Thames ; 1½d. to 1⅝d. per gallon delivered. Refined tar, 12s. per barrel ; Gas Company, 12s. 6d. Pitch, London, 26s., f.o.b. ; Gas Company, 30s. 6d. ; East Coast, 25s. to 25s. 6d. ; West Coast, 24s., next year 2s. 6d. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 1s. 1d. to 1½d. ; pure, 1s. 8½d. to 1s. 9d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5½d. ; 60%, 1s. 7½d. to 1s. 8d. ; 75%, 1s. 11½d. to 2s. ; crystals, 39-40, 5¾d. ; 34-35, 5½d. Cresylic, 95%, 1s. 1½d. to 1s. 2d. Anthracene, 40 to 45%A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quietly steady. Nearest values are :—Beckton, £12. 2s. 6d. to £12. 5s. ; Beckton terms, £11. 13s. 9d. ; London (outside makes), £11. 17s. 6d. ; Hull, £11. 15s. ; Liverpool, £11. 17s. 6d. to £11. 18s. 9d. ; Manchester, £11. 15s. to £11. 16s. 3d. ; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d. ; Liverpool, ordinary, 11s., and refined, 11s. 3d. Official quotations :—Cargoes off coast or due, 10s. 11½d. ; ditto, for prompt shipment, 11s.1½d.

FERTILISER MATERIALS.

Thursday.

The manure season being now over, manufacturers are at liberty to consider further purchases of material for the next compaign, but they are in no hurry about it. They are practically covered in regard to phosphate rock, so that any business doing in that article is for delivery further ahead. Prices are firm for all grades.

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Not much interest is being taken in East Indian bone meal for shipment to United Kingdom, but notwithstanding this Shippers are firm at £5. 2s. 6d. per ton, nett, c.i.f. Liverpool. On spot, £5. 7s. 6d. to £5. 12s. 6d. per ton is required, ex store, according to quality.

Nitrate of soda is a quiet market, but quotations remain steady at 11s. per cwt. for 95%, and 11s. 3d. per cwt. for refined quality.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, June 17, 1907.

(Rate of Exchange, $4.87½ = £1.)

Nitrate of soda shows more strength for shipment, and the price is now $2.55. Spot goods are somewhat more plentiful, and are offered at $2.75. Sulphate of ammonia is $3.05 per 100 lbs. Grey muriate is steady at 66½c. as to make, and white electrical is quoted from 6c. to 6½c. Carbonate of ammonia, lump, ranges from 7⅝c. to 8c. per lb., and powdered nominally 1c. per lb. higher. Lump salammoniac, good white seconds, is 9½c. Sulphate of copper is 7⅜c. to 7½c., and very dull. White powdered arsenic is practically without demand for prompt shipment, but futures hold firm at 7⅜c. to 7½c. Red Saxony arsenic is steady at 7½c. Bleaching powders at from $1.20 to $1.30. per 100 lbs. Alkali is 92½c. per 100 lbs., f.o.r. maker's works, for light 58% in bags. Caustic soda, 74%, is a trifle weaker, at $2.07½. per 100 lbs., same conditions. Calcined carbonate of potash, 80-85% is slow at 3¾c., and hydrated at 4⅜c. Caustic potash, 75%, is 4¼c. Chlorate of soda is 8½c., and potash 8⅛c., both f.o.r. maker's works. Bichromate of soda has been advanced 1c. per lb. to 7⅜c., and potash advanced ⅛c. to 8⅛c., following a convention of the makers. Prussiate of soda inclined to be weak at 10c., and potash is slow at 16c. per lb. Oxalic still remains slow, and sells from 8¼c. upwards. Needle antimony is weak at 9½c. for lump, and all antimony compounds have a downward tendency. General business is very slow, and there is not much pressure to sell.

THE LONDON METAL MARKETS.

Thursday.

Copper: Standard brands, £99. 5s. to £99. 10s. cash, and £93. 10s. to £93. 15s. three months. Tin: G.M. quality, £198. to £198. 10s. cash, and £184. to £184. 10s. three months; English, £194. Lead: Soft foreign, July, £21. 5s.; August, £21.; September, £20. 12s. 6d.; October, £20. 10s.; English, £21. 10s. to £21. 15s. Spelter: ordinary brands, £24. to £24. 5s., ex ship; hard, £20. 10s., f.o.b. Antimony, £45. to £48.; ore, £8. to £10. Bismuth, 5s. Quicksilver, £7.; seconds, £6. 16s. Nickel, £175. to £185. Pig-iron closing prices:—Standard, 56s. 7d. cash, and 56s. 10½d. one month; Cleveland, 56s. 10d. cash, and 57s. 1d. one month.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

For the products of the alkali trade and heavy chemicals generally a fairly good demand is maintained; but there is no accession of business beyond the ordinary demand, and upon the whole the spot markets are quiet. In the alkali trade prices remain steady, and are practically without change. Bleaching Powder is £4. 7s. 6d. to £4. 10s., f.o.r. and f.o.b. for prompt and forward delivery. Some inquiry is on foot for next year's requirements. Saltcake is steady in price, and demand continues active at 40s. per ton, f.o.r. Chlorates unchanged at 3½d. Caustic soda, 70%, £9. 15s., f.o.b. Alkali, 58%, in bags, £4. 10s. per ton. Soda crystals, 60s. per ton. Potash, caustic and carbonate remain firm in price, and demand is good. Prussiate of potash, 6d., and soda, 3¾d. per lb. Acetic acids in all qualities are selling freely and prices are firm. Acetate of lime, grey, 80%, is steady at £12. 10s., c.i.f. Sugar of lead is quiet. Arsenic is more freely offered at £33. 10s. to £34. Sulphate of copper rather easier at £31. 5s., f.o.b. Sulphites of soda are firm and in good request. Ammonia muriate is scarce at prices ruling from £24. to £25. per ton.

LIVERPOOL DRYSALTERIES.

Thursday.

Montreal potashes dull, at 35s., and pearl ash, 40s. per cwt.; bark steady, but with little offering. Berries in better request, with Persian quoted 55s. per cwt. Logwood and fustic quiet, with prices maintained. Cutch quiet, at full rates. Beeswax: A parcel of Sierra Leone sold in store at £7. per cwt. Castor oil firm, at 3 1/16d. for good seconds Calcutta, on spot, and for June-July shipment; first pressure French, 3½d. to 3¾d.; second pressure, 3¼d. Gambier: Block quietly steady, at 19s. to 19s. 6d., on spot, and 17s. 9d. for June-July and July-August shipment; cubes, 28s. to 28s. 6d., spot, and 27s. 9d. for June-July and July-August shipment. Shellac dull, with fair free TN Orange selling at 211s. on spot, August, 205s., and October, 195s.; AC. Garnet, 207s. 6d. on spot, October, 186s., and November, 184s. to 185s.; fine marks orange, 227s. 6d. to 240s.; GAL, 190s. to 192s. 6d. Glucose: American liquid, 43%, 10s. 6d. on spot, and 8s. for June shipment; chips, 80%, 8s. 3d.; 70%, 8s., c.i.f. American powdered starch, 10s. on spot, and 9s. 6d. for shipment; pearl, on spot, 9s. 4½d., and for shipment, 9s., c.i.f. Cream of tartar: 98% foreign powder, 82s.; 95%, 80s. Citric acid: English, 2s. 0½d.; foreign, 1s. 11½d. to 1s. 11¾d. Tartaric acid: English, on spot, 11¼d.; foreign, 11¼d.

LIVERPOOL OIL AND COLOUR MARKET.

Thursday.

OILS.—Palm oil dull, sales including Grand Bassa and Dixcove on spot and near arrival, at £28.; Accra, £29. 7s. 6d., on spot and near, £29. 15s.; Niger, £29. 10s., on spot; Benin, spot, £30.; June-July and July-August, £30.; near arrival, £30. 10s.; Old Calabar, spot, £30. 10s., and June-July, £30. 15s.; soft oils, £30. 12s. 6d.; Emoe, £30. 17s. 6d.; Lagos, £31. 10s. to £31. 5s., on spot, and £31. 5s. for near arrival; Saltpond, June-July, £28. 5s., near arrival, £28. 7s. 6d.; Sherbro, July-August, £29. 15s. per ton, all in transit. Olive oil in fair request, at £40. to £42. 10s. per tun; shipment parcels, £37. to £38., c.i.f. for Levant, and £37. per tun for Corfu. Tallow quiet at 33s. to 38s. on spot, for North American beef; South American beef, 37s. to 37s. 6d., and mutton, 37s. 6d. to 38s.; Australian, 34s. 6d. to 36s. 6d. for mixed and beef; mutton, 37s. to 38s. 6d.; home melted, 33s. 6d. to 37s. 6d. per cwt. Rosin steady: Quotations are: Common and D., 11s. 7½d. to 11s. 9d.; 11s. 10½d. for E.; 12s. for F.; 12s. 1½d. for G.; 12s. 3d. for H.; 12s. 6d. for I.; 13s. 6d. for K.; 14s. 3d. for M.; 15s. for N.; 16s. for WG.; and 16s. 6d. for WW. Linseed oil quiet, at 27s. 6d. to 28s. per cwt., for Liverpool makes in export casks. Cottonseed oil quiet, at 32s. per cwt., for Liverpool refined in export barrels. Petroleum inactive, at 6¼d. for Russian and Roumanian, and 6⅝d. to 7⅛d. for American refined oils. Petroleum spirit steady, at 1s. 1¼d. to 1s. 3d. per gallon, for spot American deodorised. Turpentine steady, at 43s. 6d. per cwt. for spot parcels.

HULL PAINT, OIL, AND COLOUR REPORT.

Thursday.

OILS.—Markets during the week have been slack for both linseed and cottonseed oils, each having lost value considerably. The imports of linseed and cottonseed from Argentina have been considerable and well up to the average, but the demand for oils has been slow. The fall has disconcerted some speculators not altogether connected with this market, but the inconvenience has been felt here by the reduction in value. Amongst the principal imports here to date, as against the same period a year ago, have been:—Wheat, 1,910,133 qrs., against 1,981,809 qrs.; flour, 86,724 cwts., against 195,932 cwts.; linseed, 388,444 qrs., against 258,642 qrs.; rapeseed, 43,540 qrs., against 40,435 qrs.; cottonseed, Egyptian, 119,891 tons, other kinds 83,194 tons, against 99,466 tons and 72,354 tons respectively; oilcake, 16,741 tons, against 23,893 tons; hemp, 72,621 cwts., against 98,702 cwts.; olive oil, 2,621 tuns, against 2,515 tuns. Amongst the weekly imports are:—Lard, 1,728 cwts.; margarine, 4,545 cwts.; sugar, 27,694 cwts.; glucose, 479 cwts.; hides, 540 cwts.; oilcake, 1,301 tons; colours, 2,322 packages; wool, 444,923 lbs. Exports:—Oil, 10,916 cwts.; colours, 2,924 packages; chemicals, 2,816 packages. Linseed oil closes lower, 24s. 9d. spot, sellers, 23s. 9d. July-August, 22s. 7½d. September-December; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week:—6 tons Belgium, 2 Denmark, 3 Germany 21 India, 5 Norway, 4 Turkey; total, 41 tons. Refined cotton oil closes easier, at 29s. 6d. spot, naked, 29s. 1½d. July-August, 27s. 9d. September-October, 23s. 7½d. November-April; crude, ditto, spot, 28s.; casks £1. and barrels £1. 5s. per ton extra. Exports:—3 tons Germany, 3 Holland, 3 Norway; total 9 tons. Turpentine unchanged at 42s. 9d. spot; Russian easier and lower, from 22s. 6d., spot. Olive oil unchanged. Cod oil, 17s. to 19s. Rosins unchanged. Rape oil firmer in sympathy with German oil.

CAKES.—Demand seasonable but quiet, with prices ruling the same.

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TYNE CHEMICAL REPORT.

THURSDAY.

Market quiet for chemicals, with a slow demand. Soda crystals unchanged, at £3. to £3. 2s. 6d. per ton, gross weights. Caustic soda, 70%, £9. 15s., and 76-77%, £10. 10s. per ton. Bleaching powder quiet, at £5. to £5. 5s. per ton. This product is now being offered for 1908 on practically same terms and conditions as this year. Sulphur scarce, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-7%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market has been somewhat easier, and owing to scarcity of tonnage, prices for prompt loading have fallen. To-day's quotations:—Best Northumbrian steam, 14s. 3d. to 14s. 6d. per ton; second qualities, 14s. to 14s. 3d. per ton; Northumberland small coals, 10s. to 10s. 6d. per ton; best gas coals, 14s. 6d. to 15s. per ton; ditto, seconds, 13s. to 13s. 6d. per ton; Durham bunkers, 12s. 6d. to 13s. per ton; good coking coals, 13s. 6d. to 14s. per ton; household coals, 15s. to 17s. per ton; foundry coke, 24s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

Sulphate of ammonia is on a very quiet market, with only a very moderate volume passing, but the position as to value is fairly firm, at £12., f.o.b. Leith, for prompt, the same as it was a week ago. Business on the deferred delivery basis seems wholly neglected for the time. Sulphate of copper is again rather easier, and lower figures accepted. Saltcake is firm of position, at about 40s. Both naphtha and creosote remain in good demand, with more doing in forward delivery business. In the heavy chemicals the feeling is steady, with prices well maintained. Both caustic soda and bleaching powder are rather more asked after, and the call for home supplies of soda crystals has improved a little. In the section of mineral oils and paraffins (solid and liquid) the recent good feeling is retained, at the old price figures.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d., nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d., nett, f.o.b. Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £15., and boracic acid, £24. nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2½d.; and soft, 2⅞d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6½d.; ordinary sorts, 6d. and 5⅞d. (open market prices for spot business) at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; and 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s., Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12., prompt, f.o.b. Leith; sulphate of copper, £31. 15s., less 5% Liverpool, prompt.

New Companies.

Archangel Petroleum Company, Ltd.—Capital £50,000., in £1. shares. This company has been formed to carry on in Russia or elsewhere the business of winners and refiners of and dealers in petroleum and other mineral oils. No initial public issue. The first directors are W. Koch, F. Lane and W. R. von Ofenheim; remuneration 10% of the surplus profits after providing for 6% dividend on the issued capital, divisible. Registered office, 28, Bishopsgate-st. Within, E.C.

British Coalite Company, Ltd.—Capital £2,000,000., in 1,500,000 ordinary and 500,000 deferred ordinary shares of £1. each. This company has been formed to adopt an agreement with Coalite, Ltd., and to carry on in the United Kingdom, Europe, or elsewhere, the business of colliery proprietors, fuel and chemical manufacturers, manufacturers of and dealers in machinery and apparatus for manufacturing or increasing the illuminating or heating power of gas, spirit oil, petroleum and heat-producing agents, dealers in coke, tar, pitch, asphaltum, and other residual products. Minimum cash subscription 25% of the shares offered to the public. The number of directors is not to be less than 3 nor more than 12. Coalite, Ltd., may, for the first three years, nominate directors as under: (*a*) if the total number of directors be less than 9, two directors; (*b*) if such total number be less than 12 but not less than 9, three directors; and (*c*) if such total number exceed 12, four directors. The application for certificate of incorporation (dated 14th June) stated that no director has been appointed; but, according to the prospectus, since published, the first directors are C. Allen, J.P. (chairman Henry Bessemer and Co., Ltd.; Carlton Main Colliery Company, Ltd., near Barnsley), Bent's Green, Sheffield; Sir William H. Bailey (director of Ebbw Vale Steel, Iron and Coal Company, Ltd., and Manchester Ship Canal Company), Sale Hall, Cheshire; A. C. Cory-Wright, J.P. (director of Wm. Cory and Son, Ltd., coal factors), 52, Mark-lane, E.C.; A. G. Kitching, J.P. (director of the Metropolitan Railway Company), 7, Drapers Gardens, E.C.; Sir W. H. Preece, K.C.B., F.R.S. (director London Electric Supply Corporation, Ltd.), 8, Queen Anne's Gate, S.W.; and H. W. Pugh (Mann, George and Co., coal exporters), 23, Lime-street, E.C.; qualification £1,000.; remuneration £5,000. and 2½% of the surplus net profits after 10% has been paid on the ordinary and 12% on the deferred ordinary shares. Voting powers: one vote for each ordinary share and 3 votes for each deferred ordinary share. The directors may borrow up to the amount of the issued capital, without the sanction of a general meeting. In the event of winding-up, the available assets are to be applied firstly in repaying the capital on the ordinary shares and secondly in repaying the capital on the deferred ordinary shares, any balance being divided equally between the two classes. Registered office, 3, London Wall Buildings, E.C.

John Bibby, Sons and Co. (Garston), Ltd.—Capital £100., in £1. shares. This company has been formed to carry on the business of producers, smelters, refiners, manipulators, workers, shippers, importers, exporters, brokers and factors of and wholesale and retail dealers in copper, copper ore and other metals, ores and minerals and any products thereof, and goods made wholly or partially thereof, engineers, tube, cylinder, roller, plate, sheet, bar and wire manufacturers, tool makers, wagon, motor, locomotive and cycle builders, boiler makers, etc. No initial public issue. The Broughton Copper Company, Ltd., are the permanent managers. Registered office, Garston Copper Works, Garston, near Liverpool.

North Wales Lead Company, Ltd.—Capital £10,000., in £1. shares. This company has been formed to acquire and turn to account the lead mining property known as the Aberdounant and Crowlwm Mine, near Llanidloes, Montgomery. No initial public issue. The first directors are to be appointed by the company or the subscribers; qualification 20 shares; remuneration £50. per annum, divisible.

Peat Industries, Ltd.—Capital £50,000., in £1. shares. This company has been formed to acquire any interests in any invention relating to the treatment of peat, soil and cellulose substances of any description capable of being used in the manufacture or production of alcohol, nitrogen, sulphate of ammonia, tar, gypsum, gas or other chemical products or substances, and to adopt an agreement with the Société Anonymé Origo, of Brussels. No initial public issue. The first directors are to be appointed by the subscribers; qualification £100. shares or stock. Registered office, 61, Gracechurch-st., E.C.

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IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 22.

Acetic Acid—
Holland, 43 pks. Greeff & Co.
" 10 blns. "
" 12 cks. Muller & Co.
" 36 blns. "
" 10 cbys. Stahlschmidt & Co.

Acetone—
U.S.A., £800 P. F. Knowlden
Germany, 400 Woods Trustees
" 55 T. H. Lee
France, 400 P. F. Knowlden

Albumen—
France, £60 Mory & Co.

Alcohol (Methylic)—
Germany, 690 gals. F. A. Tye

Alumina-Sulphate—
Holland, £523 Ohlenchlager Brs.
" 120 Thames S. T. & L. Co.

Ammonium Muriate—
Holland, £167 A. & M. Zimmermann
" 112 H. Lorenz

Ammonium Phosphate—
Holland, £86 Chemical Works late H. & E. Albert

Amyl Acetate—
Germany, £120 T. H. Lee

Antimony (Crude)—
E. Indies, 8 c. L. & I. D. Jt. Co.

Antimony Ore—
H. Kong, 9 t. Hoare, Wilson & Co.
France, 1 A. Hartrodt & Co.

Argols—
Spain, 115 cks. Jacob & Son
Italy, 34 Thames S. T. & L. Co.
France, 296 bgs. "

Arsenic—
U.S.A., £80 W. & A. Bowditch
Portugal, 85 G. S. N. Co.
" 597 Lawes C. M. Co.

Asbestos—
N. Russia, 12 c. United S. Co.

Barytes—
Holland, 250 bgs. Felton
" 43 cks. & Crepin
" 55 Taylor Bros.
" 46 Harrison & Co.
" 200 bgs. "
Germany, 120 cks. Elkan & Co.
Belgium, 18 Morris & Ashby

Basic Slag—
Belgium, 150 t. Anglo-Cont. Guano Wks.

Bismuth—
Germany, 3 t. Argo S.S. Co.

Bog Ore—
Holland, 100 t. Hawkins & Co.

Bone Meal—
France, 5 t. Hewett & Co.
E. Indies, 32 Hunter, Lomer & Co.

Bones—
Arg. Rep., 74 t. Nelson & Sons

Boracic Acid—
Germany, 20 cks. Craven & Co.
" 20 J. T. Archer

Calcium Carbide—
France, 102 t. J. Harrison
Sweden, 10 M. Dk. Co.
Norway, 1 1 c. Millimnium, Ld.

Camphor—
H. Kong, 25 cs. Warner & Co.
Germany, 6 1 brl. Prop. Hay's Wf.
China, 118 Warner & Co.
Holland, 53 bls. L. & I. D. Jt. Co.

Caoutchouc—
Holland, 4 t. Figgis & Co.
France, 1 2 c. Props. Bull Wf.
" 1 Europe & Gen. Exp. Co.
" 1 7 A. Hartrodt
Natal, 2 Hale & Son

Caoutchouc—
Ceylon, 3 c. Figgis & Co.
" 4 Hoare, Wilson & Co.
" 18 Prop. Hay's Wf.
" 1 Smith & Sons
" 2 t. 11 L. & I. D. Jt. Co.
" 2 Weber, Smith & Hoare
" 1 5 Props. Bull Wf.
" 12 J.H. Renton
" 10 Brown, Geveke & Co.
Burmah, 4 L. & I. D. Jt. Co.
E. Indies, 2 17 Smith & Sons
" 3 Butler's Wf.
" 2 16 Prop. Hay's Wf.
Germany, 5 France, Fenwick & Co.
" 1 6 Clarke & Smith
" 2 Prop. Hay's Wf.
" 8 Baxter, Hoare & Co.
Straits, 3 L. & I. D. Jt. Co.
" 3 11 Figgis & Co.
" 5 Jewesbury & Co.
" 4 7 Prop. Hay's Wf.
" 17 Evans & Co.
" 1 1 Shand, Haldane & Co.
" 2 10 Weber, Smith & Hoare
" 1 9 Lewis & Peat
" 6 5 Props. Bull Wf.
" 12 3 Boustead & Co.
" 14 Penang S. Estates Co.
Portugal, 1 Smith & Sons

Carbon Black—
U.S.A., 200 cs. Binney, Smith
" 300 brls. & Co.
" 219 A. Fastlinger

Carbonic Acid Gas—
Holland, £200 Muller & Co.

Castor Oil—
France, 20 cs. Hewlett & Son
" 30 Childs & Naylor
" 40 pks. Warner & Co.
" 22 cs. Litchfield & Soundy

Caustic Potash—
France, 29 dms. Barber & Co.

Chemicals (*otherwise undescribed*)
Belgium, £12 J. Harrison
" 44 J. Cockerill Line
" 21 United S. Co.
" 21 Leach & Co.
" 9 United S. Co.
" 7 T. H. Lee
" 7 Thomas & Son
Germany, 112 Argo S.S. Co.
" 15 Prop. Hay's Wf.
" 271 T. H. Lee
" 20 Craven & Co.
" 190 Jones & Co.
" 25 N. & R. Collyer
" 287 A. & M. Zimmermann
" 262 Muller & Co.
" 5 A. & M. Zimmermann
" 80 W. Smith
" 49 Barber & Co.
" 8 Van Oppen & Co.
Germany, 27 L. & I. D. Jt. Co.
U.S.A., 5 Stahlschmidt & Co.
" 1,104 Greeff & Co.
France, 107 Mory & Co.
" 48 t. Johnson, Sons & Co.
" 11 J. Harrison

Cinchona Bark—
Holland, 304 bls. Cook & Co.
Holland, 207 L. & I. D. Jt. Co.
E. Indies, 38 Beresford & Co.
Ceylon, 6 Dunlop, Brs. & Co.

Citrate of Lime—
Italy, £1,090 Fellows, Morton & Co.
" 1,030 Thames S. T. & L. Co.

Citric Acid—
France, 4 cks. B. & F. Wf. Co.
" 12 Devon & Co.

Coal Products—
Aniline
Germany, 15 cs. L. & I. D. Jt. Co.
Belgium, 5 pks. Friend & Co.
" 42 J. Cockerill Line
Carbolic Acid
Holland, 65 cks. J. Owen
Creosote
Denmark, £65 United S. Co.
Pitch
Germany, 300 brls. Fellows, Morton & Co.
N. Russia, 55 Ldn. Oil S. Co.
" 150 Linck, Moeller & Co.
Tar
N. Russia, 1,360 brls. London Oil Storage Co.
U.S.A., 250 Produce B. Co.
Tar Dye
Germany, 2 cks. L. & I. D. Jt. Co.

Copper Ore—
H. Kong, 15 t. H. Grey, jun.
W. Aust., 4 Smith & Sons

Cottonseed Oil—
U.S.A., 100 brls. C. Took
" 50 Crichton Bros.

Cream of Tartar—
France, 40 cks. Bacon & Co.
Holland, 4 Kirkpatrick,
" 20 kgs. Barr & Co.
" 44 cks. A. & M. Zimmermann
France, 4 Warner & Co.
" 27 B. & F. Wf. Co.

Dextrine—
Holland, 3 t. Barber & Co.

Disinfectants—
France, £26 Mory & Co.

Dyestuffs—
Annatto
Denmark, 1 tnk. G. S. N. Co.
France, 1 cs. B. & F. Wf. Co.
Burmah, 250 bxs. Union Ltge Co.
" 100 Leach & Co.
Cochineal
Canary Is., 1 bg. L. & I. D. Jt. Co.
Dyewood
E. Indies, 50 cks. Humphrey, Percival & Co.
France, a qnty. Ellis & Co.
Extracts (*otherwise undescribed*)
Belgium, 10 dms. J. Cockerill Line
Fustic
Canada, 19 t. Everingham & Co.
Jamaica, 10 L. & I. D. Jt. Co.
Gambier
A. Turkey, 156 bgs. Beresford & Co.
Indigo
E. Indies, 24 chts. L. & I. D. Jt. Co.
" 16 De Grelle, Houdret & Co.
" 17 Nathan & Co.
" 17 Lewis & Peat
Indigo (Artificial)
Holland, 5 cks. T. H. Lee
Logwood
Canada, 9 t. Middleton's Wf.
Myrabolans
E. Indies, 5,498 pockts. Winser & Co.
" 3,000 Hoare, Wilson & Co.
" 220 bgs. Cook & Co.
" 3,254 France, Fenwick & Co.
Sumac
Italy, 54 bgs. Garner & Sons
Tanners' Bark
Belgium, 10 t. Juett & Cain

Dyestuffs—
Tanners' Extract
Canada, 55 cks. Boutcher, Mortimore & Co.
Tannin Extract
Italy, 25 cs. Miller's T. Extract Co.
Turmeric
E. Indies, 91 bgs. G. & H. Green
" 206 Dalton & Young
" 87 Hall & Co.
" 40 Weber, Smith & Hoare
" 45 Lewis & Peat
Valonia
A. Turkey, 25 t. Anning & Cobb
" 100 Hoare, Wilson & Co.
" 181 Brooksbank & Sons
" 18 Baxter, Hoare & Co.
" 133 Adam Bros.
" 25 Claydon & Co.
" 50 Williamson & Sons
" 46 Barrow & Bro.
" 20 T. J. & T. Powell
Vanilla
Ceylon, 8 cs. Sanderson & Co.

Ether (Sulphuric)—
Germany, 4 cs. Wewlett & Son
" 2 Prop. Hay's Wf.

Explosives—
Gelignite
Germany, £900 Alliance Explos. Co.

Farina—
Germany, 42 t. Bennett's Haulage Co.
Holland, 26 Barber & Co.
Belgium, 10 Leach & Co.
Holland, 9 Burgoyne & Co.

Flux Skimmings—
S. Aust., 9 t. Major & Field

Formaldehyde—
Germany, £50 T. H. Lee

Gelatine—
Holland, £20 Muller & Co.
France, 57 Mory & Co.
Belgium, 21 Atkins & Nisbet
" 46 J. Cockerill Line

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glucose—
Germany, 8 4 c.
Belgium, 50
U.S.A., 37 10
" 12 10 S. Devon
" 250 bgs. Wf.

Glue—
Germany, £15 Argo S.S. Co.
" 60 Craven & Co.
" 50 Prop. Hay's Wf.
Belgium, 150 Duche & Co.
" 466 Thomas & Son
" 15 J. Cockerill Line
France, 121 Mory & Co.
" 65 Rousselot & Co.
" 290 Bennett S.S. Co.
" 110 Symons & Co.
" 24 J. Harrison
" 20 Duche & Co.
U.S.A., 233 W. Davis
" 111 Sheldon & Co.
Holland, 80 O. Lechla
" 127 Muller & Co.
" 12 T. H. Lee
" 20 Duggan, Neel & Co.
A. Hung., 600 Leiner & Son

Gluestock—
Italy, £538 H. S. Staples
Belgium, 13 Thomas & Son
France, 5 t. New Sun & Vanes Wvs.

Glycerine—
Holland, £270 Barber & Co.
" 250 Spies Bros. & Co.
N.S.W., 713 Hill & Sons

Gold Ore—
Natal, 10 t. Maritime L. Co.

Gutta Percha—
Straits, 13 t. 12 c. L. & I. D. Jt. Co.
" 58 Jewesbury & Co.

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Gutta Percha
Holland, 6 c. Lewis & Peat

Infusorial Earth—
Germany, £60 Thames S. T. & L. Co.
,, 100 Deering & Robottom

Iron Bromide—
Germany, £133 A. E. Piggott

Lead Nitrate—
Italy, £32 L. & I. D. Jt. Co.

Linseed Oil—
Belgium, 57 brls. Palmer & Co.
Holland, 1 Muller & Co.

Lithopone—
Holland, 20 cks. F. T. H. Nye
Belgium, 20 Lauderdale & Co.
Holland, 60 Zumbeck & Co.
,, 28 Felton & Crepin
Belgium, 26 ,,

Magnesite—
Holland, £21 Taylor & Son

Manganese—
Holland, 2 t. Barber & Co.

Manganese Ore—
Germany, 11 t. Page, Son & East

Manganesite—
Germany, £64 Argo S.S. Co.

Mercury—
France, 16,950 lbs. L. & I. D. Jt. Co.

Mineral White—
Spain, £18 Clavdon & Co.
Italy, 55 Birdseye & Co.

Molasses—
U.S.A., 28 t. 4 c.
,, 21 69 brls. Hall & Co.
,, 76 250 S. Devon
,, 10 c. Wf.
,, 1 14 Grose
,, 6 cks. & Co.
B.W.Indies, 1 t. 2 pnchns. Martineaus Bros. & Co.

Olive Oil—
France, 38 g. 5 tuns Gill & Duffus
,, 1 Litchfield & Soundy
,, 84 15 F. Boehm
,, 9 Stockwell & Co.
,, 35 Hernu, Peron & Co.
A. Turkey, 63 16 C. & E. Morton
Italy, 48 Regali Bros.
A. Turkey, 44 126 F. Boehm
,, 17 Miller & Vincent
,, 60 Mordaunt Bros.
,, 28 1 L. & I. D. Jt. Co.
France, 30 Hernu, Peron & Co.
,, 24 B. & F. Wf. Co.
U.S.A., 1 G. & H. Duttfield

Oxalic Acid—
Holland, 5 cks. Petri Bros.

Paraffin Scale—
U.S.A., 120 t. 2 c. Ang.-Am. Oil Co.
Germany, 9 17 Franz Rucker
,, 20 Finkler & Co.

Paraffin Wax—
U.S.A., 11 t. 5 c. Hill & Sons
,, 127 16 Ang.-Am. Oil Co.
,, 92 12 L. & I. D. Jt. Co.
Burmah, 22 10 Hill & Sons
E. Indies, 8 ,,

Phosphate of Lime—
France, 2,240 t. Hunter, Lomer & Co.
Belgium, 240 Anglo-Cont. Guano Wks.

Plumbago—
E. Indies, 113 brls. Marshall & French
U.S.A., 14 Taylor Bros.
Ceylon, 112 Branwell & Co.
,, 1,269 Thredder, Son & Co.
,, 63 G. R. Haller
,, 33 G. & H. Green

Potassium Carbonate—
Germany, 15 cks. Petri Bros.
Belgium, 2 Charles & Fox
Germany, 25 A. & M. Zimmermann
Canada, 5 brls. Charles & Fox

Potassium Chlorate—
France, 10 cks. J. Harrison
,, 10 Bell & Co.
Holland, 20 Rowe, White & Co.
Sweden, 160 kgs. Boor & Co.

Potassium Iodide—
Japan, £370 Warner & Co.
,, 190 Smith & Sons
,, 367 Nippon Yusen Kaisha

Potassium Metasulphate—
Holland, 20 kgs. A. & M. Zimmermann

Potassium Muriate—
Germany, 50 bgs. Bessler, Waechter & Co.

Potassium Oxalate—
Holland, 3 cks. T. H. Lee

Potassium Permanganate—
Germany, 10 kgs. Greeff & Co.

Potassium Sulphate—
Germany, 100 bgs. Cook & Co.

Pyroligneous Acid—
France, 25 cks. Symons & Co.

Red Lead—
Germany, 32 cks. J. D. Budd
Holland, 68 F. T. H. Nye
France, 112 brls. Watt & Sons

Ripolin—
Holland, 36 cs. Phillipps &
,, 14 pks. 2 dm. Graves

Rosin—
U.S.A., 1,000 brls. Moore & Hole
France, 73 Price & Co.
,, 50 Goodlake & Nutter
U.S.A., 5,050 Produce B. Co.
,, 2,200 Rosin & Turp. Import Co.
France, 24 P. J. Johnson
Holland, 20 pks. Van Dam & Co.

Salammoniac—
Germany, £92 A. & M. Zimmermann

Saltpetre—
Germany, 46 t. 4 c. Hecker & Co.
,, 19 L. & I. D. Jt. Co.
E. Indies, 150 3 Lucas & Spencer's Wf.

Silica—
Belgium, £30 Harrison & Co.

Soap—
U.S.A., £323 W. Davis
,, 14 Lunham & Moore
,, 7 Field & Co.
,, 350 Amer. Express Co.
,, 21 Beck & Pollitzer
France, 25 B. & F. Wf. Co.
,, 25 Nippon Yusen Kaisha
,, 12 L. & I. D. Jt. Co.
,, 24 Mory & Co.
Germany, 8 L. & I. D. Jt. Co.
Holland, 12 Muller & Co.
,, 16 Hernu, Peron & Co.
Canada, 180 Armour & Co.

Soap Powder—
Holland, £40 Muller & Co.

Soapstock—
Holland, £81 Muller & Co.
Germany, 64 Prop. Hay's Wf.

Soda—
Germany, 9 c. A. & M. Zimmermann
,, 10 T. H. Lee
,, 10 t. Fellows, Morton & Co.
Belgium, 10 J. Cockerill Line
France, 37 pks. Watt & Son
Holland, 20 A. & M. Zimmermann

Soda Crystals—
Holland, 100 t. Windmuller & Co.
,, 30 Muller & Co.
Belgium, 25 Loos & Co.

Sodium Acetate—
Belgium, 10 t. J. Harrison
France, 9 ,,

Sodium Sulphate—
Holland, 10 t. R. Green

Starch—
Germany, 4 c. Argo S.S. Co.
,, 8 t. 10 Bennett's Haulage Co.
Holland, 2 10 Van Dam & Co.
,, 2 Robinson, Roberts & Co.
,, 12 5 Barber & Co.
,, 18 Little & Johnson
,, 31 16 Muller & Co.
Belgium, 1 B. & F. Wf. Co.
,, 1 C. E. Wood
,, 1 Walker & Co.
,, 3 16 J. Harrison
,, 6 Fellows, Morton & Co.
,, 1 5 Leach & Co.
,, 8 Angel & Co.
,, 20 Duche & Sons
U.S.A., 25 Bennett's Haulage Co.
,, 1 12 Field & Co.
France, 24 10 C. E. Wood
,, 7 A. C. Hitchcock

Stearine—
Belgium, 8 cks. G. S. N. Co.
,, 76 bgs. Meyerstein & Co.
Holland, 13 bls. Muller & Co.
,, 6 cks. Evans & Co.
Belgium, 63 bgs. Alsing & Co.
,, 227 G. Jennings
,, 63 Hill & Son

Sulphur—
Italy, 25 t. Fielder, Hickmann & Co.
,, 15 Vokins & Co.
,, 4 Thomson, McKay & Co.
,, 20 Cook & Co.
,, 2 S. Devon Wf.
,, 25 Acme C. Co.
,, 7 19 c. Fuerst Bros.
,, 95 12 Knill & Co.
,, 39 Jessop & Co.
,, 30 J. Kitchin

Superphosphates—
France, 150 t. Lawes C. M. Co.

Tallow—
U.S.A., 85 cks. Leete, Son & Co.
N. Zealand, 105 L. & I. D. Jt. Co.
,, 4 Phillipps & Graves
,, 10 N.Z. L. & M. A. Co.
,, 86 Lucas & Spencer's Wf.
,, 54 Anning & Cobb
,, 46 Goad, Rigg & Co.
Holland, 14 Robinson, Roberts & Co.
Arg. Rep., 293 Bessler, Waechter & Co.

Tartaric Acid—
Holland, 3 cks. T. H. Lee
,, 15 Devon & Co.
,, 40 kgs. ,,
,, 10 Kirkpatrick,
,, 2 cks. Barr & Co.
France, 8 Devon & Co.
,, 20 kgs. B. & F. Wf. Co.
Italy, 11 brls. Fuerst Bros.

Thermit—
Holland, £154 Barber & Co.

Tin Ore—
Queensland, 6 t. Hoare, Wilson & Co.
Victoria, 6 ,,
Portugal, 1 ,,
France, 1 Vivian, Younger & Co.

Turpentine—
N. Russia, 94 brls. Price & Co.
U.S.A., 411 Ldn. Oil S. Co.
,, 500 Goodlake & Nutter
,, 1,250 Produce Brok. Co.
,, 220 Taylor Bros.
N. Russia, 51 Goodlake & Nutte
,, 46 Deutsche Bk., Berlin

Ultramarine—
Germany, 7 cks. Argo S.S.Co.
,, 20 cs. ,,
Holland, 24 pks. Muller & Co.
,, 5 cs. Soutter & Co.
,, 4 cks. Van Dam & Co.

Wax—
Germany, 244 pks. T. H. Lee
,, 10 Windschuegl & Co.
,, 20 Weber, Smith & Hoare
,, 14 Prop. Hay's Wf.
Holland, 30 Muller & Co.
B. W. Indies, 1 D. de Pass & Co.
Morocco, 3 Forwood, Bros. & Co.
France, 2 L. & I. D. Jt. Co.
,, 20 Leach & Co.

White Lead—
Belgium, 73 brls. Lyon & Co.
Germany, 62 cks. Taylor Bros.
,, 34 Barber & Co.
Holland, 41 Randall Bros.
,, 16 Taylor Bros.
Germany, 37 Perkins & Homer
,, 5 Argo S.S. Co.
,, 10 Randall Bros.
Belgium, 58 brls. F. & W. Farmiloe

Wood Oil—
Germany, £190 L. & I. D. Jt. Co.

Zinc Oxide—
Holland, 100 cks. F. T. H. Nye
Germany, 75 Weber, Smith & Hoare
Holland, 220 brls. M. Ashby
,, 200 cks. Litchfield & Soundy
Germany, 15 Indestructible P. Co.
,, 5 Greeff & Co.

Zinc White—
Germany, 25 cks. Perkins & Homer
Holland, 10 Muller & Co.
Germany, 25 M. Dk. Co.

LIVERPOOL.

Week ending June 20.

Acetate of Lime—
Portland, 2,533 bgs. United Alkali Co.

Alkali—
Hamburg, 8 cks.

Aluminium—
Havre, 40 sks. Cunard S.S. Co.

Alumite—
Sydney, 246 t. Australian Alum Co.
Hobart, 246 ,,

Ammonia—
Hamburg, 16 cks.

Antimony Ore—
A'fagasta, 3,210 bgs. Aramayo & Co.
Smyrna, 873

Barium Sulphate—
Antwerp, { 100 bgs. / 71 cks. 1 bl.

Beeswax—
Valparaiso, 51 sks.
Hamburg, 48 cs. 10 bls.
Boston, 7
Burutu, 2 Niger Co.

Bones—
Dunkirk, 424 bgs.
Marseilles, 492

Boracite—
Panderma, { 90 t. / 2,270 bgs.

Borate of Lime—
A'fagasta, 986bgs. Cuevitas T.Co
,, 7,021 Borax Consolidated Co.

Caoutchouc—
Havre, 8 bls. Cunard S.S. Co.

Ceresine—
Hamburg, 12 cs.

Citric Acid—
Bordeaux, 4 cks.

Coal Products—
Pitch
Hamburg, 5 bgs.

Colours—
Hamburg, 4 cks. 4 pks.
Antwerp, 7
Bremen, 8

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Copper Dust—
Alexandria, 326 bgs.

Copper Ore—
Rio Seco, 81 bgs. Duncan, Fox & Co.
Chanaral, 251 t. Woodgate, Sons & Co.
Gefle, 60 Auberg & Co.

Cottonseed Oil—
New Orleans, 610 brls. 50 cs.

Cream of Tartar—
Bordeaux, 112 cks.

Dyesutffs—
Divi Divi
Hamburg, 518 bgs.
Dyewood Extract
Philadelphia, 26 brls.
Myrabolans
Bombay, 1,312 pockets
Oak Extract
Fiume, 237 brls. Oak Extract Co.
Sumac
Antwerp, 14 bls.
Palermo, 1,050 bgs. 1,031 pks.
Tannic Acid
Hamburg, 10 cks.
Tannin
New York, 10 brls. Ludwig Hany
Tannin Extract
Ghent, 130 cks.
New York, 10 brls. McArthur & Co.
Valonia
Smyrna, 440 bgs.

Ether—
Havre, 1 cs. Cunard S.S. Co.

Farina—
Fiume, 210 bgs.
Hamburg, 50

Felspar—
Gothenburg, 50 bgs. L. Gjersoe

Ferro Chrome—
Havre, 10 cs. Cunard S.S. Co.

Ferro Silicon—
Christiania, 214 cks. Bk. Griffin C. Iron Co.

Formaldehyde—
Stettin, 5 cbys.

Gelatine—
Hamburg, 5 cs.

Glue—
Marseilles, 40 bls.
New York, 10 Bk. United Mfg. Co.

Gluestock—
Marseilles, 200 bgs.

Glycerine—
Rio de Jan., 50 dms. Davidson, Unwin & Co.
Antwerp, 20

Gold Ore—
Coquimbo, a qnty. Gibbs & Sons

Horn Piths—
Antwerp. a qnty

Lithopone—
Antwerp, 16 cks.

Magnesia—
Bordeaux, 1 cs.

Magnesite—
Fiume, 131 cs. Chalas & Sons
" 50 197 bgs.

Manganese Ore—
Bombay, 750 t.
Batoum, 835
Poti, 2,480

Manganese Silicon—
Bordeaux, 124 cks.

Metal Ashes—
Dunkirk, 12 bgs

Olive Oil—
Marseilles, 19 brls. 798 cs.

Paraffin Scale—
New York, 800 brls. Ang. Oil Co.

Paraffin Wax—
Amsterdam, 221 bgs.

Phosphate—
Ghent, 5,000 bgs.

Phosphorus—
Montreal, 150 cs.

Potash—
Montreal, 6 brls.
Hamburg, 20 dms.

Potash Lye—
Hamburg, 25 dms.

Potassium Carbonate—
Hamburg, 2 cks.

Potassium Chlorate—
Havre, a qnty. Cunard S.S. Co.

Pyrites—
Huelva, 3,400 t. 10 c.

Rosin—
Savannah, 10 brls.
Fernandina, 100
Bordeaux, 183 cks.

Rubber—
Hamburg, 21 bgs. 40 cks. 34 pks. 91 cs.
Iquitos, 105
Manaos, 1,174
Montreal, 12 Shaw & Son
" 29 Lazenby, Pearson & Co.
Batavia, 478
Colombo, 6
Para, 838 877
Lagos, 1 ck. Paterson, Zochonis
" 1 Holt & Co.
Lagos Roads, 1
C. Coast, 2
" 1 pchn. Miller's, Ld.
Sekondi, 3 pks. L. Pagenstecher
" 1 ck. F. & A. Swanzy
" 6 Miller's, Ld.
" 3 Pickering & Berthoud

Salt—
Lagos, 1 bg. Holt & Co.

Saltpetre—
Hamburg, 66 cks.

Silver Ore—
Rio Seco, 10 bgs. Duncan, Fox & Co.
A'fagasta, 824 Grossmith & Luboldt
Chanaral, a qnty. Woodgate, Sons & Co.
Coquimbo, " Gibbs & Sons

Soap—
Bari, 25 cs.
Copenhagen, 18 Lever Bros.
Marseilles, 17
N. Orleans, 3,606 brls.
New York, 200
Havre, a qnty. Cunard S.S. Co.

Soap Lyes—
Marseilles, 40 dms.

Soda—
Havre, a qnty. Cunard S.S. Co.

Sodium Nitrate—
Stettin, 10 cks.

Sodium Sulphate—
Havre, a qnty. Cunard S.S. Co.
Bordeaux, 1 ck.

Starch—
Philadelphia, 30 brls.
Boston, 12
Dunkirk, 120 cs.
Amsterdam, 8
Antwerp, 40
Bremen, 306
Hamburg, 180
Bordeaux, 1 ck.

Stearine—
Antwerp, 63 bgs.
Hamburg, 28 cs.

Sulpho Cyanide—
Hamburg, 4 cks.

Sulphur Ore—
Drontheim, 2000 t. Rees & Co.

Tallow—
P. Stanley, 85 cks. Falkland Is. Co.
Australia, 148 Co-op. W'sale Soc. Ld.

Tallow—
N. Orleans, 559 trcs.
P'delphia, 665
Portland, 167
New York, 664
" 300 Schultz & Co.
Seattle, 458
Boston, 150
" 110 brls. Ware & Co.

Tartaric Acid—
Marseilles, 10 brls.

Tin Ore—
A'fagasta, 206 bgs. Huth & Co.
" 907 Aramayo & Co.
" 6,000 London City & Midland Bk.
" 2,622 Titley & Co.
" 260 Cia Est de Antiquera
" 1,404 Gibbs & Sons

Turpentine—
Savannah, 400 brls. 1 dmjn.

Wax—
P'delphia, 420 brls.
Baltimore, 125 Meade-King, R. & Co.

Wax (Mineral)—
Hamburg, 35 bgs.

Zinc Oxide—
Philadelphia, 200 brls.
Antwerp, 18

MANCHESTER.

Week ending June 22.

Alcohol (Wood Spirit)—
Philadelphia, 54 dms.

Ammonia (Anhydrous)—
Rotterdam, 25 cs.

Antimony Salt—
Rotterdam, 4 cks.

Barytes—
R'terdam, 44 cks. 100 bgs.

Chemicals (*otherwise undescribed*)
Bordeaux, 3 cks.
Hamburg, 14
Rotterdam, 640 bgs. 17 brls. 41 11 cs. 13 pks. 20 kgs.

Coal Products—
Alizarine
Rotterdam, 4 cs. 135 pks. 360 brls.
Aniline Colour
Rotterdam, 76 cks. 5 cs.
Aniline Salt
Rotterdam, 12 cks.
Beta Naphthol
Rotterdam, 2 brls.
Creosote Salt
Rotterdam, 30 cks.
Dimethylaniline
Rotterdam, 1 ck.
Paranitraniline
Rotterdam, 8 brls.

Colours—
Antwerp, 3 cks. Fletcher & Co.
Hamburg, 2
Rouen, 91
Rotterdam, 22 29 cs. 24 pks. 498 brls.

Dyestuffs—
Indigo Paste
Rotterdam, 46 brls.
Tanners' Extract
Hamburg, 13 cks.
Tannic Acid
Rotterdam, 3 cks
Tannin Extract
Rotterdam 1 ck. 10 kgs.

Farina—
Rotterdam, 2,141 bgs.
Stettin, 1,325
Rouen, 100

Felspar—
Stettin, 200 bgs.

Ferro Chrome—
Rouen, 135 cks.

Gas Oil—
Philadelphia, 581,746 g. Ang. Am. Oil Co.

Glue—
Antwerp, 100 cs.
Hamburg, 20 bgs.
Rotterdam, 230 5

Glue—
Philadelphia, 20 brls.
Rouen, 26 cks.

Lead Acetate—
Rotterdam, 5 cks.

Litharge—
Rotterdam, 6 cks.

Lithopone—
Rotterdam, 8 cks.

Magnesite—
Rotterdam, 125 bgs.

Oxalic Acid—
Hamburg, 25 cks.

Paraffin Scale—
Philadelphia, 350 brls.

Potash—
Hamburg, 8 cks. 40 dms.

Potassium Prussiate—
Antwerp, 16 cks.

Quartz—
Stettin, 204 bgs.

Red Lead—
Rouen, 20 cks.

Rosin—
Bordeaux, 50 cks.

Rubber—
Hamburg, 28 bls.

Saltpetre—
Hamburg, 24 kgs.

Salt (Waste)—
Hamburg 350 t.

Soap—
Boston, 1,018 cs.
Philadelphia, 5,300 bxs.

Soda—
Hamburg, 17 cks.

Sodium Acetate—
Antwerp, 36 cks. Fletcher & Co.

Sodium Phosphate—
Antwerp, 17 cks. Fletcher & Co.

Starch—
Dunkirk, 40 cs.
Antwerp, 497
Hamburg, 42

Stearine—
Boston, 5 trcs.
Antwerp, 63 bgs.

Sulphuric Acid—
Rotterdam, 1 ck. 7 cs.

Tallow—
Boston, 20 trcs.

Tartar—
Hamburg, 4 cks.

Ultramarine—
Rotterdam, 11 cks. 34 cs.

Zinc Dust—
Dunkirk, 19 cks.

Zinc Oxide—
Antwerp, 8 brls.
Hamburg, 5 cks.
Rotterdam, 32

HULL.

Week ending June 22.

Aluminium—
Antwerp, 51 cs. Wilsons & N. E. R. S. Co.

Antimonin—
Rotterdam, 7 cks. Hull & N. S.S. Co.

Arsenic—
Antwerp, 46 cks. Wilsons & N. E. R. S. Co.

Asbestos—
S.Petersburg, 250 bgs. Wilson, Sons & Co.

Barytes—
Amsterdam, 12 cks. Hull & N. S.S. Co.
Rotterdam, 51 50 bgs. "
" 3 H. & B. Ry. S.S. Line
Antwerp, 188 700 Wilsons & N. E. R. S. Co.
" 639

Chemicals (*otherwise undescribed*)
Rotterdam, 4 brls. Hull & N. S.S. Co.

Castor Oil—
Genoa, 20 cs.

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Coal Products—
Alizarine
Rotterdam, 14 cks. Hull & N. S.S. Co.
" 31 pks. "
" 185 brls. H. & B. Rly.
" 17 cs. S.S. Line
Aniline
Rotterdam, 102 pks. Hull & N. S.S. Co.
" 29 cks. H. & B. Ry.
" 3 cs. S.S. Line
Naphtha
Foval, 25 brls. Major Co.
Pitch
Antwerp, 11 cks.
Hamburg, 20 Wilsons & N. E. R. S. Co.
Tar
Libau, 225 cks. / 5 brls.

Colours—
Antwerp, 48 pks. Wilsons & N. E. R. S. Co.
Bremen, 32 Veltmann & Co.
Antwerp, 25
Rotterdam, 8 cks. H. & B. Ry. S.S. Line
New York, 200 cs.

Dextrine—
Harlingen, 10 bgs. Hull & N. S.S. Co.

Dried Blood—
St. Petersburg, 200 cs.

Dyestuffs—
Sumac
Palermo, 600 bgs.

Farina—
Harlingen, 150 bgs. Hull & N. S.S. Co.

Formaldehyde—
Stettin, 6 brls. Wilson, Sons & Co.

Glucose—
Stettin, 5 brls. Wilson, Sons & Co.
New York, 540 "
Rotterdam, 5 bgs. Hull & N. S.S. Co.

Glue—
Antwerp, 60 brls. / 40 bgs.

Litharge—
Rotterdam, 7 cks. Hull & N. S.S. Co.

Magnesite—
Trieste, 325 bgs. Wilson, Sons & Co.

Mineral White—
Amsterdam, 40 bgs. Hull & N. S.S. Co.

Oleine—
Palermo, 4 brls.

Olive Oil—
Genoa, 12chts.1 ppe. Wilson
" 27 cs. Sons & Co.
Naples, 100 brls.
Trieste, 53 Wilson, Sons & Co.
Bari, 3 cs. "

Phosphorus Residues—
Hamburg, a qnty. Wilsons & N. E. R. S. Co.

Plumbago—
Hamburg, 17 cks. Wilsons & N. E. R. S. Co.

Potash—
Hamburg, 30 dms. Wilsons & N. E. R. S. Co.
New York, 5 cks.

Potassium Prussiate—
Danzig, 12 cks.

Rosin—
Rotterdam, 23 cks. Hull & N. S.S. Co.
Bordeaux, 45 Helmsing & Son

Soap Powder—
New York, 500 bxs. Wilson, Sons & Co.

Soda—
Rotterdam, 18 cks. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 52 bgs.

Sodium Acetate—
Antwerp, 20 cks. Wilsons & N. E. R. S. Co.

Starch—
Bremen, 1,588 cs. Veltmann & Co.
Antwerp, 181 4 bgs. Wilsons & N. E. R. S. Co.
Ghent, 86 "

Starch—
Fiume, 80 cs. Wilson, Sons & Co.
Antwerp, 6 5 bgs.

Saltpetre—
Rotterdam, 200 bgs. Wilson, Sons & Co.

Sulphur Ore—
Aarhus, 320 t.

Tartaric Acid—
Rotterdam, 10 cks. Hull & N. S.S. Co.
Bari, 53 brls. Wilson, Sons & Co.

Tin Ashes—
St. Petersburg, 40 cks.

Turpentine—
Riga, 105 brls. Wilson, Sons & Co.
Libau, 221
Bordeaux, 1 Helmsing & Son

White Lead—
Rotterdam, 80 cks. Hull & N. S.S. Co.

Zinc Oxide—
Rotterdam, 4 cks. Hull & N. S.S. Co.

Zinc White—
Rotterdam, 4 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending June 27.

Alumina—
Rotterdam, 48 cks.

Acetic Acid—
Antwerp, 37 cks.

Acetone—
Rotterdam, 1 dm.

Aluminium Sulphate—
Rotterdam, 100 bgs.

Ammonium Oxalate—
Hamburg, 9 cks.

Ammonium Phosphate—
Antwerp, 14 cks.

Asbestos—
Antwerp, 5 crts.

Barium Sulphate—
Antwerp, 115 cks. / 500 bgs.

Barytes—
Antwerp, 12 cks.

Bleaching Powder—
Hamburg, 61 pks.

Bog Ore—
Antwerp, 42 t.

Calcium Carbide—
Christiania, 20 dms.

Carbon Black—
New York, 109 cs.

Caustic Potash—
Hamburg, 50 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 10 cks.

Coal Products—
Alizarine
Rotterdam, 10 cks. 20 pks. / 15 brls.
Aniline
Rotterdam, 8 cks.
Naphthaline
Antwerp, 20 bgs.
Paranitraniline
Rotterdam, 20 cks.
Tar Salt
Rotterdam, 1 ck.

Colours—
Hamburg, 2 cks.
Rotterdam, 107 pks.

Dyestuffs—
Myrabolans
Calcutta, 1,872 pks.
Sumac
Palermo, 200 bgs.
Tannin
Hamburg, 5 cks.

Lactic Acid—
Hamburg, 21 cks.

Linseed Oil—
Antwerp, 29 brls.
Amsterdam, 171

Lithopone—
Rotterdam, 70 cks.

Glue—
Antwerp, 25 cks.
Hamburg, 80 bgs.

Glycerine—
Genoa, 25 dms.

Magnesite—
Rotterdam, 100 bgs.

Oleine—
Antwerp, 5 cks.

Olive Oil—
Leghorn, 345 cs. 50 bxs.

Oxalic Acid—
Hamburg, 10 cks.

Paraffin Wax—
Calcutta, 198 bgs.

Phosphate—
Tunis, 1,200 t.

Plumbago—
Genoa, 240 bgs.
Colombo, 38 brls.

Potash—
Hamburg, 65 cks.

Potassium Prussiate—
Antwerp, 5 cks.
Rotterdam, 5

Rosin—
New York, 750 brls.
Fernandina, 5,700

Rubber—
Hamburg, 16 cs.

Saltpetre—
Hamburg, 17 pks.

Salt (Waste)—
Hamburg, 170 t.

Soap—
Genoa, 120 cs.
Montreal, 401 bxs.
New York, 150 brls.

Soap Oil—
Antwerp, 19 brls.

Soap Powder—
New York, 1,000 bxs.

Soda Crystals—
Antwerp, 130 bgs.

Starch—
New York, 600 bgs.
Antwerp, 10 brls.

Stearine—
Gothenburg, 50 brls.

Sulphur—
Catania, 200 bgs. / 97 brls. / 10 cks.

Tartar—
Naples, 5 cks.
Bordeaux, 5
Rotterdam, 2

Tartaric Acid—
Rotterdam, 7 cks.
Genoa, 8

Turpentine—
Bordeaux, 75 brls.

Ultramarine—
Rotterdam, 6 pks.

Wax—
New York, 229 brls.
Leghorn, 7 bgs.
Hamburg, 21 cs.

Wax (Mineral)—
Hamburg, 2 bgs.1 cs.

Wax (Vegetable)—
Hamburg, 20 cs.

White Lead—
Rotterdam, 28 pks.

Zinc Oxide—
New York, 300 brls.
Rotterdam, 45 cks.
Antwerp, 8

TYNE.

Week ending June 22.

Acetic Acid—
Antwerp, 25 cks. Tyne S.S. Co.

Barytes—
Rotterdam, 60 cks. Tyne S.S. Co.
Antwerp, 41 "

Calcium Carbide—
Trondhjem, 20 dms. Matthiessen & Co.

Coal Products—
Tar
Gothenburg, 60 cks. Scott & Son

Iron Oxide—
Amsterdam, 20 brls. Tyne S.S. Co.

Lithopone—
Rotterdam, 20 cks. Tyne S.S.Co.

Phosphate—
Antwerp, 340 t. Langdale's Chemical Manure Co.

Pyrites (Sulphur)—
Huelva, 2,226 t Tharsis S. & C. Co.

Rosin—
Rotterdam, 3 brls. Tyne S.S. Co.

Soda Crystals—
Antwerp, 200 bgs. Tyne S.S. Co.

Stearine—
Antwerp, 6 bgs. Tyne S.S. Co.

Tartar—
Rotterdam, 2 cks. 10 kgs. Tyne S.S. Co.

GOOLE.

Week ending June 22.

Caoutchouc—
Boulogne, 19 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 135 bgs. / 70 cks.
Boulogne, 19 21 cs.
Dunkirk, 10 34 dms.
Hamburg, 10 / 100 brls.
" 46 92
R'tterdam 63 2 cs. / 40 bgs.

Dyestuffs (*otherwise unspecified*)
Antwerp, 225 bgs. / 39 brls. / 15 cs.
Boulogne, 9 pks.
Hamburg 20 / 390 cks. 33
Rotterdam, 754 60

Farina—
Hamburg, 200 bgs.
Delfzyl, 425

Ferro Chrome—
Rotterdam, 3 cs.

Glue—
Ghent, 40 bgs.
Antwerp, 54

Olive Oil—
Kuluk B., 158 cks.
Adramyt, 223

Phosphate of Lime—
Boulogne, 915 bxs.

Plumbago—
Hamburg, 37 brls.

Salt (Waste)—
Hamburg, 100 t.

Starch—
Ghent, 38 cs.
Antwerp, 100
Dunkirk, 80

Stearine—
Rotterdam, 2 cks.
Boulogne, 4

GRIMSBY.

Week ending June 19.

Caoutchouc—
Hamburg, 56 cs.
Antwerp, 15
Rotterdam, 3 pks.

Chemicals (*otherwise undescribed*)
Antwerp, 50 cks.
Rotterdam, 135 bgs.

Colours—
Hamburg, 42 pks.
Antwerp, 80
Rotterdam, 5 cs.

Dextrine—
Hamburg, 2 cs.

Ferro Chrome—
Hamburg, 12 cs.

Gallic Acid—
Antwerp, 2 cks.

Litharge—
Hamburg, 6 cks.

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EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 24

Alcohol (Wood Spirit)—
Bordeaux, 231 gals.
Havre, 352

Alumina Sulphate—
B. Ayres, 15 t. 14 c. £79

Ammonia—
Algoa Bay, 469 pks. £15
Calcutta, 5 cs. 7
Rio de Jan., 4 dms. 9
Rangoon, 6 18
Boulogne, 4 5
Santos, 4 6
Durban, 10 14 50
Delagoa Bay, 4 12
Suakim, 6 69
Paris, 2 c. 8
Karachi, 3 9
E. London, 6 18
Melbourne, 4 6
Shanghai, 5 7

Ammonia Carbonate—
Calcutta, 29 cs. £44
Lisbon, 4 14
Rangoon, 1 t. 17 c. 77
Copenhagen, 1 33

Ammonium Muriate—
Cologne, 5t. 2 c. £115

Ammonium Nitrate—
Hamburg, 1 t. 8 c. £59

Ammonium Sulphate—
Valencia, 550 t. 2 c. £6,518
Grenada, 2 15 34
Demerara, 30 1 359
Rotterdam, 14 168

Antimony—
Christchurch, 5 c.

Antimony (Regulus)—
New York, 4 t. 16 c.
St. Petersburg,5

Antimony Sulphide—
Treport, 14 cks. £229

Arseniate of Lime—
New York, 1 t. 18 c. £13

Arsenic—
Yokohama, 25 kgs. £45

Asbestos—
Wellington, £141
Amsterdam, 53
Melbourne, 10
Shanghai, 175

Basic Slag—
Grenada, 10 t. £22

Bleaching Powder—
Durban, 1 t. £7

Bone Meal—
Durban, 50 t. £194

Bones—
Le Treport, 8 t.

Borax—
P. Elizabeth, 6 c. £11
Durban, 1 cs. 5

Calcium Carbide—
Beira, 1 cs. £6
H. Kong, 10 c. 10
C. Town, 9 7
Wellington, 1 t. 3 35
Penang, 2 1 10

Camphor—
Leghorn, 1,110 lb.
Montreal, 2,500
Vladivostock, 876

Caustic Soda—
Wellington, 4 c. £26

Chalk—
Yokohama, 3 t.

Chemicals (*otherwise undescribed*)
Hamburg, 2 cs. £44
New York, 4 c. 7
Ostend, 1 6
Calcutta, 2 5
St. Petersburg, 12 kgs. 1 75
Melbourne, 33 449
Lisbon, 4 82
Santander, 3 105

Chemicals (*otherwise undescribed*)
Cologne, 16 cks. £60
Smyrna, 3 cs. 7
Bilbao, 1 45
Christchurch, 5 15
Alexandria, 2 t. 18 c.
Bremen, 1 bx. 11
Boulogne, 1 ck. 20
Adelaide, 120 196

Citric Acid—
Hamburg, 1 t. 12 c. £237
Calcutta, 1 2 cs. 18
Madras, 1 5
Delagoa Bay, 2 21
Durban, 1 12
Malta, 5 56
Wellington, 5 5
Bombay, 4 48
H. Kong, 1 10
Penang, 1 12

Coal Products—
Alizarine
Bombay, 90 cks. £376
Boston, 5 101
Barcelona, 1 26
Cologne, 8 272
Carbolic Acid
N. York, 35 cks. £357
30 cs.
Amsterdam, 75 25 rnlts. 333
Auckland, 5 13
Napier, 75 dms. 33
Naphtha
Melbourne, 108 t. £95
Naphthaline
New York, 113 cks. £111
Sydney, 14 cs. 18
Melbourne, 8 10 25
Havre, 20 25
Bombay, 20 13
Karachi, 20 13
Pitch
Christchurch, 20 bxs. £9
Stettin, 923 t. 1,188
Philadelphia, 135 brls. 310
Tar
Port Sudan, 160 dms. £25
Piræus, 13 cks. 11
Colombo, 2 brls. 5
Beira, 65 6
Durban, 25 cks. 300 pks.
150 52
Tar Oil
Hamburg, 260 cks. £152
Marseilles, 6 9
Gothenburg, 250 179
Boulogne, 1 5

Copper Sulphate—
Cologne, 77 t. 15 c. £2,213
New York, 10 308
Antwerp, 10 310
Rotterdam, 15 465
Durban, 5 8

Cottonseed Oil—
Bombay, 4 t. 4 c.
Dunkirk, 4 18
Marseilles, 17 11
Rotterdam, 39 17
Bordeaux, 2 6
Genoa, 12 13
Melbourne, 12 3

Cream of Tartar—
Napier, 1 cs. £5

Disinfectants—
Bombay, 202 pks.
52 cks. 3 cs. £132
75 dms.
St. Lucia, 10 10
Cologne, 5 88
Melbourne, 10 30
H. Kong, 4 75 56
Colombo, 1 95 49
Calcutta, 29 pks. 8
Riga, 3 cks. 147
Durban, 2 5 27
Sydney, 2 14 67
Marseilles, 15 20
Algoa Bay, 3 3
Rangoon, 20 240
Copenhagen, 1 24
Yokohama, 1 16
Singapore, 6 26
Penang, 50 32
Auckland, 51 pks. 5 cs. 128

Fertilisers—
Boston, 12 t. 6 c. £102
Durban, 9 14 146

Glue—
Sydney, 2 t.

Glycerine—
Havana, 4 c. 421
New York, 84 t. 9 2,725
N. Orleans, 30 1,140
Philadelphia, 40 1,200

Hydrocarbon—
Brussels, 15 dms. £18

Hydrochloric Acid—
Sekondi, 2 cs. £50

Hydrogen Peroxide—
Auckland, a qty. £6
Sydney, 5 cs. 12

Lead Acetate—
Rio de Jan., 16 c. £31

Linseed Oil—
Adelaide, 5 t. 3 c.
Auckland, 7 5
Barbadoes, 1 9
Bombay, 2
B. Ayres, 1 8
Busreh, 10
Calcutta, 2 9
C. Town, 17
Christchurch, 2 12
H. Kong, 1 15
Invercargill, 1
Kobe, 2 2
Lisbon, 1 17
Lyttelton, 2 7
Maranhao, 7 15
Melbourne, 34 19
Napier, 17
New York, 10 5
Pernambuco, 6 19
P. Elizabeth, 13
Port Sudan, 3 10
Rio de Jan., 13 8
Santos, 15 5
Sydney 1 16
Trinidad, 19
Wanganui, 3 2
Wellington, 14 2
Yokohama, 2
Montreal, 1 15
Bangkok, 1
Beira, 3
Brussels, 30
Delagoa Bay, 15
Durban, 11 10
Gibraltar, 1 1
Karachi, 12 18
Penang 1 16
Rangoon, 1 5
Stockholm, 1 15
Tampico, 2

Manure—
Auckland, 25 t. 9 c. £85
Hawkes Bay, 61 1 205
Wellington, 10 4 35
Christchurch, 50 158
Malaga, 20 161
Durban, 760 2 2,819
New York, 1 15 26
Libau, 391 15 985

Nitric Acid—
Bombay, 7 t. £86

Phosphoric Acid—
Grenada, 55 bgs. £64
Melbourne, 1 cs. 5

Phosphorus—
Sydney, 18 c. £19
B. Ayres, 12 cs. 86

Plumbago—
Bombay, 7 c.

Potash—
Melbourne, 5 c. £56
Calais, 11 34
Shanghai, 2 12

Potassium Chlorate—
B. Ayres, 15 c. £26
Havana, 1 t. 10 53

Potassium Cyanide—
Barbadoes, 1 cs. £5
Melbourne, 2 t. 2 c. 152
Delagoa Bay, 4 18

Potassium Iodide—
C. Town, 5 c. £101

Potassium Permanganate—
Calcutta, 5 c. £9

Potassium Sulphate—
Grenada, 15 c. £8

Quinine—
Antwerp, 108 ozs.
Bombay, 360
Calcutta, 2,200
Aleppo, 441
Beyrout, 884
Colombo, 12,000
Constantinople, 772

Salammoniac—
Alexandria, 1 c. £34

Salt—
Haiphong, 2 t.
Lyttelton, 80
Wellington, 2
Bombay, 2
Delagoa Bay, 1
Durban, 2
Hong Kong, 1

Saltcake—
Quebec, 100 t. £220

Saltpetre—
Adelaide, 10 c. £13
Amsterdam, 1 t. 2 28
Auckland, 12 16
Gibraltar, 24 10 576
Lyttelton, 1 26
N. Orleans, 13 15 330
Santos, 2 4
50 brls. 109

Sheep Dip—
Durban, 800 dms. £94
Adelaide, 45 24

Silver Nitrate—
Shanghai, 1 cs. £21

Soap—
Alexandria, 1 t.
Beira, 10 c.
Bombay, 4 19
Boulogne, 1 19
Calcutta, 4 10
C. Town, 1 12
Channel Is., 1 12
Charlton, 3 2
Christchurch, 2 13
Cyprus, 3
Delagoa Bay, 13
Durban, 2 5
E. London, 4
Flushing, 6
Ghent, 5
Gibraltar, 17
Grenada, 3 18
H. Kong, 1 11
Leghorn, 1
Melbourne, 8 7
Mombasa, 1 3
Montreal, 6
P. Elizabeth, 11
Philadelphia, 15
Rangoon, 1 5
Rosario, 12
Rotterdam, 1 9
Wellington, 2 3
Yokohama, 4
Adelaide, 4
Amsterdam, 1
Auckland, 5
Colombo, 2 1
E. London, 2
Hamburg, 16
Karachi, 3 1
Lisbon, 11
Malaga, 1
Manilla, 3
Otago, 11
Shanghai, 16
Sydney, 11
Tokio, 9

Soda Crystals—
Malta, 1 t. 1 c. £17

Sodium Arsenite—
E. London, 2 t. 10 c. £86
Durban, 7 284

Sodium Bicarbonate—
Singapore, 5 c. £10
Mombasa, 1 t. 7
New York, 1 2 6

Sodium Cyanide—
Auckland, 5 t. £423

Sodium Sulphide—
Adelaide, 2 t. 3 c. £15

Sodium Tartrate—
Paris, 11 c. £32

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Starch—
Beira, 8 c.
C. Town, 4 t. 10
Christchurch, 1 6
P. Elizabeth, 2 5
Sydney, 12 7
Delagoa Bay, 2
Calcutta, 5
Colombo, 3
Constantinople, 3
Trebizonde, 5
Wellington, 1

Sulphur—
Melbourne, 3 t. 1 c. £25
N. Orleans, 15 4 80

Sulphuric Acid—
Colombo, 1 t. 10 c. £18
Suakim, 10 9
Algoa Bay, 5 31
Oporto, 6 5
Penang, 1 16 10

Superphosphate of Lime—
Wellington, 50 t. £159

Tallow—
Brisbane, 20 t. 7 c.
Hamburg, 5 1
Rotterdam, 11 5
Hamburg, 50 7
St. Petersburg, 7

Tannic Acid—
Brisbane, 1 cs. £6

Tartaric Acid—
Havana, 1 t. £100
Delagoa Bay, 5 c. 31

White Lead—
Adelaide, £309
Bombay, 155
Calcutta, 72
C. Town, 125
Colombo, 3 t.
Durban, 472
E. London, 116
Melbourne, 89
Montreal, 249
New York, 136
P. Elizabeth, 254
Sydney, 1,225
Auckland, 34
Delagoa Bay, 22
Otago, 53
Wellington, 52

LIVERPOOL.

Week ending June 26.

Acid (*otherwise undescribed*)—
Leghorn, 10 c. £29
Rotterdam. 11 t. 10 197
Rio de Jan. 3
Alum—
Melbourne, 1 t. £6
Philippopolis, 1 2 c. 6
Rosario, 2 10
Paita, 1 7 8
Calcutta, 4 19 28
Rangoon, 2 1 11
C. Town, 5 13 29
Lisbon, 20 2 100
Alumina Acetate—
Lisbon, 10 c. £1
Ammonia—
Matadi, 1 c. £4
Rio de Jan., 3 4
L. Marques, 1 2
Kingston, 1 2
Sokondi, 1 t. 2 61
Caldera, 1 8 26
Ammonium (Anhydrous)—
Cadiz, 2 c. £9
Lisbon, 2 15
Ammonium Carbonate—
Durban, 3 c. £5
Marseilles, 2 t. 5 108
Vancouver, 10 18
New York, 1 4 59
Genoa, 1 14 58
Bahia, 1 7 34
B. Ayres, 10 16
Rouen, 1 10 63
Ammonium Muriate—
Genoa, 5 t. 2 c. £109
Cleveland. 15 4 365
Alexandria, 4 96
Gaire. 3 72
Galatz, 10 12
Piræus, 1 1 25
Philadelphia, 29 19 709
St. Louis, 24 16 595
Barcelona, 3 1 70
Gothenburg, 4 4 92
San Francisco, 1 8 52

Ammonium Sulphate—
Valencia, 286 t. 8 c. £4,444
Alicante, 30 16 358
Gandia, 33 10 380
Las Palmas, 24
Yokohama, 100 1,200
Teneriffe, 10 6
Baltimore, 100 8 1,190
Arucas, 3 36
Philadelphia, 51 2 620
Antimony—
Boston, 6 cks.
Rio de Jan., 2 cs.
Antimony Sulphide—
Bahia, 6 c. £21
Arsenic—
Vera Cruz, 2 c. £3
Asbestos—
Montreal, 1 cs.
Bleaching Powder—
Bombay, 5 cs.
Boston, 1,068 cks.
Montreal, 99
Phila'phia, 153
Portland, 429
Rio de Jan., 20
C. Town, 60 dms.
Calcutta, 10
Delagoa B., 180
Durban, 225
Maranham, 10 brls.
Middleton, 64
New York, 263 50 bxs.
Portland, 362
Boiler Disincrustant—
Galatz, 21 cs.
Lisbon, 15 brls.
Bones—
Boston, 20 t. £100
Boracic Acid—
Brisbane, 4 t. £102
Melbourne, 3 78
Borax—
Brisbane, 2 t. £36
St. Croix, 2 c. 2
Bombay, 2 10 38
New York, 13 5 223
Dunedin, 3 49
Tampico, 2 2
Wellington, 10 8
Lyttelton, 5 4
Havana, 1 15
Natal, 2 2
Vera Cruz, 1 15
Piræus, 10 7
Melbourne, 2 t. 32
Santos, 10 7
Yokohama, 2 19 44
Calcium Chloride—
S. Leone, 2 t. 4 c. £5
Leghorn, 10 1 37
Brisbane, 1 1 2
Kioge, 7 14 15
Calcium Sulphydrate—
Antwerp, 10 t. 9 c. £43
Carbonic Acid Gas—
Lokoja, 1 c. £9
Lisbon, 5 39
Castor Oil—
Mumford, 3 c.
Caustic Soda—
Acajutla, 15 dms.
Alicante, 150
Bahia, 10 pks.
Braila, 6
Brisbane, 99
B. Ayres, 136
Cadiz, 12
Cuba, 4 cs.
Dunedin, 35
Genoa, 110
Havana, 50
Hiogo, 235
La Labertad, 25
M. Video, 223
New York, 28 bxs.
Oporto, 36 dms.
Piræus, 40
P. Alegre, 25
Rio de Jan., 18
Rio Grande, 17
San Francisco, 25 brls. 10 cs.
Shanghai, 83
Smyrna, 20
Sydney, 15
Taluora, 30
Varna, 8
Vera Cruz, 160
Wellington, 16
Yokohama, 348

Caustic Soda—
Alexandria, 75 dms.
Amsterdam, 19
Bombay, 10 brls.
Corunna, 20
Durban, 19
Galatz, 210
Hamburg, 330
Melbourne, 81 pks. 86
Messina, 15
Naples, 182
Parahyba, 201
Penang, 60
Pernambuco, 120
Progresso, 150
Rotterdam, 6 7 53
Rouen, 67
Santos, 109
Talcahuano, 14
Victoria, 18
Chalk—
Montreal, 1 cs.
Chemicals (*otherwise undescribed*)
Brisbane, 20 pks. £16
Brussels, 13 22
Sydney, 195 200
Townsville, 45 39
Hamilton, 5 22
Portland, 150 35
S. Cruz, 50 62
Stettin, 25 19
Ronnely, 52 396
Calcutta, 1,209 70
Karachi, 1 4
China Clay—
Baltimore, 1,584 t. 19 c.
Bombay, 723 cks.
Bremen, 18
B. Ayres, 8
Calcutta, 150
Madras, 161 pks.
Vera Cruz, 132
Citric Acid—
St. Johns, N'fld., a qty. —
Citrochloric Acid—
Milton, 1 c. £4
Coal Products—
Aniline
Lisbon, 4 cks.
Aniline Colour
Boston, 3 kgs.
Genoa, 6 cs.
New York, 17 cks. 9
Aniline Dye
New York, 16 cks.
Carbolic Acid
Alexandria, 1 c. £2
Carbolic Acid (Liquid)
Sydney, 5 t. 17 c. £87
Carbolic Acid (Solid)
Hamburg, 5 t. £281
New York, 20 1,122
Leghorn, 10 c. 29
Rotterdam, 11 10 197
Calcutta, 4 11
Pitch
Bilbao, 20 brls.
Antofagasta, 20 20 dms.
Colours—
Guavaquil, 23 cs.
Mollendo, 1 ck.
San Francisco, 68
Gijon, 3 brls.
New York, 30 60 dms.
Melbourne, 161
Para, 6 kgs.
Vancouver, 7 1
Vera Cruz, 20 5
Copperas—
C. Town, 3 t. £7
Coquimbo, 92 164
Copper Sulphate—
Montreal, 4 t. 16 c. £150
Lisbon, 9 19 313
Chinde, 2 3
Varna, 3 100
Galatz, 23 5 704
Constanti'ple, 5 15 179
Ghent, 19 30
Colombo, 1 32
Braila, 19 30
Vigo, 1 13 50
Valencia, 4 1 132
Barcelona, 32 9 1,013
Algoa Bay, 5 8
C. Town, 5 8
B. Blanca, 1 34
Cottonseed Oil—
Marseilles, 50 brls.
Bathurst, 25
Dakar, 81
Rufiscue, 25

Cottonseed Oil—
Valparaiso, 200 dms.
Cream of Tartar—
St. Johns, N'fld., 6 c. £26
Dextrine—
Vera Cruz, 6 cks.
Disinfectants—
Addah, 3 c. £8
Cape Coast, 9 11
Accra, 1 10
Quittah, 1 2
Calcutta, 12 t. 5 99
Rangoon, 1 8 42
Antwerp, 1 1
Lisbon, 2 13
Paranagua, 1 2
Durban, 11 13
Guayaquil, 1 kg. 3
Calcutta, 1 14 30
Salisbury, 12 24
S. Leone, 4 13
Para, 1 3
Dyestuffs (*otherwise undescribed*)
New York, 2 cks.
Dyestuffs—
Bark Extract
Philadelphia, 2 cs.
Tannin Extract
Christiania, 5 cks.
Turmeric
Montreal, 5 cks.
Fertilisers—
New York, 130 t. 1 c. £441
Glue—
Montreal, 100 bgs.
Quebec, 7 cks.
St. John, 10
New York, 50 5 dms.
Shanghai, 39 cs.
Glue Stock—
Boston, 209 bls.
Glycerine—
Montreal, 4 t. £147
New York, 43 18 c. 1,700
Rotterdam, 57 2,340
C. Town, 2 5
Gypsum—
Oporto, 100 sks.
Iron Oxide—
Delagoa Bay, 80 kgs.
Hamburg, 5 cks.
Linseed Oil—
Alexandria, 150 brls.
Calabar, 20 dms.
Callao, 66
Havana, 24
Iquique, 100
Iquitos, 80
Kingston, 10
Lagos, 120
Lanzarote, 5
Manaos, 85
Manzanillo, 6
Rio de Jan., 25 cks. 100
St. Thomas, 9
Santos, 10
Tampico, 345
Teneriffe, 2
Beyrout, 60
Bombay, 130
Durban, 45
Hamburg, 2
Havana, 3
Madras, 187
Matadi, 28
Para, 4
Salonica, 3
Vera Cruz, 6
Wellington, 2 200
Litharge—
Kingston, 1 kg.
Magnesia—
Trieste, 2 c. £9
Magnesite—
Madras, 5 kgs.
Magnesite (Calcined)—
Madras, 5 c. £4
Magnesium Carbonate—
Rio de Jan., 2 c. £3
C. Town, 5 t. 2 95
Barcelona, 1 19 34
Vera Cruz, 1 1
Magnesium Citrate—
Boliva, 1 c. £2
Manganese—
Montreal, 7 c.

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Manganese Ore
New York, 11 t. 19 c.
Montreal, 9 cks.
Rotterdam, 8 t.

Manure
Jersey, 2 t. £25
Philadelphia, 1 9
Las Palmas, 5 50
Antwerp, 20 3 c. 300
Baltimore, 104 10 570
Teneriffe, 45 4 455

Muriatic Acid
Kingston, 1 c. £1
Barranquilla, 1 2
Caldera, 11 7

Nitric Acid
Kingston, 1 c. £1
Caldera, 1 t. 7 26

Olive Oil
St. John, 5 cs.

Paraffin Wax
Bahia, 25 cs.
Mollendo, 40 bgs.
Odessa, 40
Venice, 275

Phosphorus
Kobe, 2 t. 4 c. £320

Phosphorus (Amorphous)
Kobe, 2 t. 4 c. £440
Tokio, 13 135
Hiogo, 18 135
St. Petersburg, 11 70

Potassium Bichromate
Norrkoping, 1 c. £10
Vera Cruz, 2 t. 15 88
Rosario, 1 31

Potassium Carbonate
Chicago, 7 c. £3

Potassium Chlorate
Bahia, 1 t. 7 c. £16
Shanghai, 5 150
Yokohama, 3 10 135
Kobe, 10 300
Lisbon, 1 30
Rio de Jan., 7 1 212
Copenhagen, 5 150
Randers, 2 10 75
Konigsberg, 2 14 81
H. Kong, 4 120
Yokohama, 4 120
Konigsberg, 1 29

Potassium Cyanide
Rio Grande, 6 c. £27
N. Orleans, 1 7 105
Sekondi, 1 17 168

Potassium Prussiate
Para, 1 kg. £1
Sekondi, 2 c. 7

Potassium Sulphate
Quebec, 5 t. 3 c. £55
Teneriffe, 2 4 22
Las Palmas, 18 12 191

Red Lead
Callao, 2 kgs.
Vera Cruz, 10

Rubber
Canada, 1 cs.
Hamburg, 23 bgs.
Montreal, 2
Newport N., 1

Salammoniac
Palermo, 17 c. £37
Catania, 10 20
Lagos, 2 4
Colombo, 1 1
Lagos, 1 19 41
Bulgaria, 14 28
Oporto, 1 bx. 1
Constanti'ple, 2 t. 10 95
Naples, 10 19
Las Palmas, 24 278
Teneriffe, 13 6 60

Salt
Aduah, 17 t. 2 c.
Antwerp, 91 14
Barbadoes, 25
Bombay, 5
Boston, 320
Calabar, 25 2
C. Palmas, 200 bgs.
Cameroons, 1,909
C. Town, 29
Christiania, 350
Ch'tagong, 2,070
Duala, 77
Durban, 188
Genoa, 100
Gibraltar, 1 1
Hamburg, 101
Kingston, 1 14
Malta, 1 5
Manaos, 48
Matadi, 54

Salt
Montreal, 125 t.
Mossel Bay, 225
N. Orleans, 506
P. Madryn, 100 cs.
Rufisque, 10
Sekondi, 11 3 c.
Shanghai, 10
Souris, 640
Amsterdam, 499
Delagoa Bay, 8
Helsingborg, 5
Matadi, 10
Melbourne, 10
Para, 57 10

Saltcake
Antwerp, 101 t. 3 c. £101

Saltpetre
S. Leone, 5 c. £6
P. Madryn, 2 3
Pisco, 1 t. 6 38

Sheep Dip
Argentine, 150 dms.
Argentine, 300 cs. £534
B. Ayres, 50 22
Beira, 12 c. 1 11
C. Town, 9 t. 14 1,000 259
Algoa Bay, 5 9
Algoa Bay, 1,000 239
Asuncion, 3 12 168
E. London, 1 9 43
Kingston, 3 3
M. Video, 3 11 100
Victoria, 6 9

Soap
Antwerp, 200 cs. 93 bxs.
Barbadoes, 2
Bombay, 8 brls. 3,180
Cairo, 15
Calabar, 3
C. Town, 515
Constanti'ple, 27 bls.
Durban, 2 20 dms.
Gibraltar, 45
Hamburg, 50 52 bxs.
Kobe, 50
Leopoldville, 1
Manaos, 474
Philippopolis, 20
Piraeus, 18
P. Maria, 227
P. Said, 37
P. Arenas, 1
Rangoon, 145
Rotterdam, 2,146
S. Cruz, 20
Sekondi, 202 pks. 30
Shanghai, 5 350
Talcahuano, 1
Varna, 10
Vera Cruz, 1
Addah, 100
Alexandria, 40
Algiers, 5
Bathurst, 80 bls. 1
Beira, 5 cks.
Bolivia, 150
B. Ayres, 100 dms.
Calcutta, 350
Christiania, 25 bxs.
Colombo, 47
Delagoa Bay, 100
Dunkirk, 1,160
E. London, 650
Karachi, 740
La Libertad, 795
Las Palmas, 1
Madras, 135 80 kgs.
Malta, 411 bxs.
Martinique, 274
Monrovia, 3
Montego Bay, 50
Onobo, 3,120
Para, 722 bdls.
P. Arenas, 6
St. John, 5 454
Salonica, 50
San Jose, 14
Singapore, 536
Valparaiso, 6
Wellington, 25
Barranquilla, 1
P. Said, 224
St. Thomas, 4
Tetuan, 10

Soap Extract
Delagoa Bay, 33 cs.
Johannesburg, 10

Soda Ash
Boston, 41 cks.
Copenhagen, 1,400 bgs. 4 brls.
Corfu, 25
Salonica, 105
Singapore, 25
Yokohama, 1,480

Soda Ash
Aalborg, 1,400 cks.
Acajutla, 15
Adelaide, 57
Antwerp, 670 bgs.
Bombay, 8 178
Brisbane, 196
B. Ayres, 415
Calcutta, 1,480
Canton, 2,688
Delagoa Bay, 73
Hamburg, 100
Hiogo, 150
Kingston, 39 cs.
Montreal, 392 bgs.
Oporto, 10
Santos, 214 12 kgs.
Shanghai, 699 840
Sydney, 105

Soda Crystals
Yokohama, 50 kgs.

Sodium Arseniate
Beira, 672 dms.
Bombay, 2 cks.

Sodium Bicarbonate
Asuncion, 13 pks.
Braila, 3 cks.
Lisbon, 4 100 brls.
Rouen, 30
Vera Cruz, 3 cs.
Malta, 26 bgs.
N. Orleans, 200 kgs.
Yokohama, 2,000 1,000
Adelaide, 6 45 7
Barcelona, 75 pks.
Bombay, 10 149
Bourgas, 157
Calcutta, 275
Colombo, 35 cs.
Galatz, 189
Hamburg, 10
H. Kong, 686
Montreal, 5 340
Rangoon, 71
St. John, 20
Salonica, 88
Brisbane, 80
Naples, 20
Trinidad, 20

Sodium Cyanide
La Union, 12 t. £997

Sodium Hyposulphite
Calcutta, 1 t. 5 c.

Sodium Prussiate
New York, 50 cks.
Reval, 1 cs.

Sodium Silicate
Bombay, 6 brls.
B. Ayres, 97
Christiania, 60
Melbourne, 8 cs.
Salonica, 32 cks.

Sodium Sulphate
Galatz, 4 dms.
Hamburg, 9 brls.
P. Alegre, 45 cks.
Valencia, 38 134 bgs.

Sodium Sulphide
Melbourne, 10 t. 4 c. £70

Starch
Asuncion, 5 cs.
Dunedin, 100
Oporto, 20 cks.

Stearine
Hamburg, 9 tres.

Sulphur
Jersey, 1 t. £8
C. Town, 2 4 c. 45
Algoa Bay, 15 4 170
E. London, 4 1 85
S. Leone, 3 1
New York, 12 18
Bahia, 1 1 6
Matanzas, 10 4
Larnaca, 1 7
Merritton, 80 2 330
Gothenburg, 100 460
B. Ayres, 9 16 70

Sulphuric Acid
Mombasa, 1 t. 10 c. £10
Bahia Blanca, 2 4
Lisbon, 11 9 40
Rangoon, 4 14
Para, 1 kg. 1
Cawnpore, 1 2 10
Bahia, 1 1

Superphosphate
Las Palmas, 116 t. £334
Teneriffe, 12 8 c. 29

Superphosphate of Bone
Las Palmas, 7 t. £24

Tallow
Alexandria, 98 tres.
Half Assini, 5 brls.
Lisbon, 14 cks.
P. Said, 3
Sekondi, 5 cs.
Bahia, 1
Rotterdam, 58

Tartaric Acid
Havana, 5 c. £26
St. John's, N'fld., a qty.

Turpentine
Akassa, 20 dms.
C. Town, 1
Iquitos, 4
Lagos, 60

Venetian Red
Baltimore, 125 pks.
New York, 300 brls.
Colombo, 74 cs.
Gothenburg, 130
Oporto, 34 cks.

White Lead
Havana, 4 cks.
Durban, 28 kgs.
Kingston, 400
Las Palmas, 20
Trieste, 20
Colon, 83
Leopoldville, 2

Zinc Chloride
New York, 1 t. £17

Zinc Muriate
H. Kong, 1 t. £13
Bombay, 4 8 c. 62
Calcutta, 10 10 78
Toronto, 7 6 113
Brantford, 5 7 35
Montreal, 2 8 17
Alexandria, 10 7

Zinc Oxide
Tocopilla, 15 cs.
Orotava, 32 kgs.
San Jose, 60 pks.

Zinc White
Tocopilla, 15 cs.

MANCHESTER.

Week ending June 25.

Ammonium Muriate
Rotterdam, 14 cks.
Montreal, 5

Barytes
Montreal, 8 cks.

Chemicals (*otherwise undescribed*)
Treport, 105 t.

Coal Products
Aniline
Germany, 6 kgs.
Philadelphia, 2 brls.
Aniline Colours
Ghent, 1 brl.
Aniline Salt
Philadelphia, 6 cks.
Carbolic Acid
Philadelphia, 50 cks.
Rouen, 16 btls.
Creosote Salt
Valleyfield, 52 cks.
Naphthylamine
Antwerp, 142 cks.
Pitch
Sydney, 101 t.
Tar Oil
Genoa, 24 dms.

Dyestuffs (*otherwise undescribed*)
Hamburg, 30 bxs.

Farina
Genoa, 60 bgs.

Iron Oxide
Philadelphia, 295 brls.

Lead Nitrate
Rouen, 1 ck.

Magnesium Carbonate
Montreal, 12 cks.

Mineral White
Antwerp, 42 cks.
Rouen, 60
Treport, 42

Salt
Quebec, 300 t.
Rotterdam, 180

Soap
Bombay, 15 cs.

Sodium Acetate
Montreal, 14 cks.

Sodium Prussiate
Philadelphia, 20 cks.

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Sodium Sulphate—
Sydney, 10 kgs.

Sodium Sulphate (Glauber's Salt)—
Bombay, 301 bxs.

Sodium Stannate—
Bombay, 5 cs.

Stearine—
Rotterdam, 30 brls.

Zinc Chloride—
Bombay, 14 cks.
Rotterdam, 33

Tallow—
Bombay, 4 cks.
Rotterdam, 1 brl.

HULL.

Week ending June 22.

Ammonium Sulphate—
Stettin, 1,300 bgs.

Bleaching Powder—
Drontheim, 20 kgs.

Chemicals (*otherwise undescribed*)
Aalesund, 30 cks.
Amsterdam, 116 7 cs.
220 bgs.
Bergen, 8 683 slbs.
368 20 kgs.
Bombay, 3 cs.
Christiania, 3 1 275
Drontheim, 30 1 905
Genoa, 1 6
Hamburg, 52 130 61 pks.
Helsingfors, 15
Marseilles, 3
Odessa, 125 90 kgs.
Rotterdam, 10 70
Stettin, 16 10 dms.
Copenhagen, 2
Con'nople, 40
Danzig, 25
St. Petersb'rg, 50
Wyburg, 3 cs.
2

Coal Products—
Pitch
Aalesund, 50 kgs.
Tar
Amsterdam, 6 cks.
Antwerp, 12
Aalesund, 5
Bergen, 6
Copenhagen, 25
Rotterdam, 10
Konigsberg, 5
Hamburg, 15
Drontheim, 20

Cottonseed Oil—
Amsterdam, 1 t. 5 c.
Christiania, 7
Danzig, 1 15
Rotterdam, 2 3
Stettin, 17
Stavanger, 2 8

Dyestuffs (*otherwise undescribed*)
Ghent, 5 cks.

Linseed Oil—
Antwerp, 6 t. 1 c.
Bombay, 20 2
Christiania, 10
Copenhagen, 1 15
Drontheim, 3
Hamburg, 3 10
Stavanger, 11

Magnesite—
Antwerp, 20 t.

Manure—
Dunkirk, 145 bgs.
Leghorn, 3,100
Lisbon, 7,516

Molasses—
Bergen, 120 brls.

Soap—
Rotterdam, 8 cks.

Tallow—
Con'nople, 20 cks.
St. Petersburg, 45 trcs.

Turpentine—
Amsterdam, 5 cks. 30 dms.
Bombay, 5
Christiania, 5
Copenhagen, 56
Con'nople, 5 1 cs.
Gothenburg, 27 15
Hamburg, 74
Rotterdam, 5
Antwerp,

Wax—
Copenhagen, 1 cs.

GLASGOW.

Week ending June 27.

Ammonium Carbonate—
Calcutta, 1 t.
Sydney, 2 10 c.

Ammonium Muriate—
Mauritius, 4 c.

Ammonium Sulphate—
Alexandria, 359 t. 10 c.
Bayonne, 10 3

Boracic Acid—
Rotterdam, 7 c.

Borax—
Amsterdam, 10 t. 6 c.
Rotterdam, 12

Castor Oil— £23
Natal,

Caustic Potash—
Johannesburg, 1 t. 11 c. 2 q.

Chemicals (*otherwise undescribed*)
Sydney, £108
Delagoa Bay, 210
Belgium, 261
Genoa, 20
Naples, 39

Chrome Ore—
Belgium, 11 t. 8 c. 2 q.

Coal Products—
Carbolic Acid
Rotterdam, 8 t. 15 c.
Christiania, 2 4 1 q. 21 lb.
Creosote Oil
Ado, 341 t. 4 c. £350
Bordeaux,
Pitch £110
Constantinople,
Canada, a qty. 38
Montreal,
Russia,
Christiania, 800 t. "
Helsingfors, 301 18 c. 40
Canada,
Tar £125
Calcutta, £37 10s.
Madras, £25
Negapatam,
Canada, a qty. 28
Delagoa Bay,
Russia,
Ado, 118 t. "
Christiania, 11 12 c.
Helsingfors, 94

Colours—
Calcutta, 9 c.
Boston, 6

Dyestuffs (*otherwise undescribed*)
Constantinople, £195
Canada, 175
Odessa, 170
Sweden, 205
Boston, 70

Dyestuffs—
Extracts (*otherwise undescribed*)
Rotterdam, 10 c.

Ferro Silicon—
Belgium, 11 t.

Fish Oil—
Calcutta, 3 t. 7 c. £340
Genoa, 115
Rouen, 105

Gas Oil—
B. Ayres, £110

Gelatine—
U.S.A., £456

Glue—
Sydney, £20
Canada, 40

Guano—
Hamburg, 50 t. 15 c. 2 q.

Iodine—
Rotterdam, 17 c.

Infusorial Earth—
Flensburg, 5 t.

Lead Ore—
Cameron, 102 t.

Linseed Oil—
Sydney, 8 t. 2 c.
Alexandria, 6 19 2 q.
Constantinople, 8 1

Litharge— £53
Montreal,

Magnesia—
Leghorn, 1 t. 1 c. 1 q.

Magnesium Sulphate—
Paris, 6 t. 16 c. 3 q.
Rio de Jan., 8 5

Manure—
Nantes, 15 t.
Belgium, 5 5 c. 1 q.

Olive Oil— £202
Port Elizabeth,

Oxalic Acid— £61
Genoa,

Paraffin Residium—
Rotterdam, 12 t.

Paraffin (Solid)—
Odessa, 2 t. 9 c.
Naples, 79 5 1 q.
Rotterdam, 19

Paraffin Wax—
Rotterdam, 1 t. 10 c.
Alexandria, 4 12 2 q.
C. Town, 10 3
Russia, 2 19 2
Smyrna, 2
Turkey, 2 9 3
U.S.A., 10 2
Abo, 26 7 24 lb.
Christiania, 6 10
Leghorn, 17 3
Naples, 2 9 3
Palermo, 2 19
Rio de Jan., 14 10
Rouen, 5 17 1
Santos, 5 7 1

Pitch (Bone)— £48
Rouen,

Potassium Bichromate—
Madras, 4 t. 4 c.
Sydney, 1 15 3 q.
Amsterdam, 2
Rotterdam, 4 15
Quebec, 11 15 1
Genoa, 3 10 1

Potassium Carbonate—
Calcutta, 1 t. 10 c. 3 q.

Potassium Cyanide— £679
Rio de Jan.,

Red Lead—
B. Ayres, 10 t. 4 c. 2 q.
Constantinople, 3 13
Rosario, 4 16 1
Sweden, 1
Rio de Jan., 1 2
Singapore, 4 3 2

Sheep Dip— £260
B. Ayres,

Soap—
Calcutta, 1 t. 15 c. 1 q.
Colombo, 10
Trieste, 1 3 3
E. London, 13 17
Delagoa Bay, 1 16 2
Johannesburg, 1 2

Sodium Bichromate—
Laval, 5 t. 5 c.
Genoa, 10 3 1 q.

Sodium Carbonate—
Delagoa Bay, 3 t. 10 c.

Sodium Cyanide— £168
Beira, 2,463
Johannesburg, 2,548
Pachuca, 1,533
U.S.A., 5,612
Marfil,

Sulphuric Acid— £36
Colombo,
Delagoa Bay, 9 c.

Superphosphate—
Durban, 53 t. 11 c. 1 q.

Tallow—
Alexandria, 5 t.

Turpentine— £39
Constantinople,

White Lead—
B. Ayres, 1 t. 18 c. 1 q.
Alexandria, 5 18 2
Constantinople, 19 2
Delagoa Bay, 2 5
Russia, 1 9 14 lb.
Singapore, 15
Toronto, 3

Zinc Oxide—
Natal, 1 t. 13 c.

TYNE.

Week ending June 22.

Antimony (Regulus)—
Rotterdam, 2 t.
Hamburg, 11
Antwerp, 1 9 c. 2 q. 10 lb.

Barium Binoxide—
Hamburg, 23 t. 19 c.

Barium Carbonate—
Hamburg, 178 t. 11 c.

Bleaching Powder—
Bergen, 2 t. 1 c. 2 q. 14 lb.

Boiler Disincrustant—
Antwerp, 10 c.

Caustic Soda—
Rotterdam, 4 t. 18 c. 2 q. 10 lb.
Barcelona, 63 5 14
Copenhagen, 13 1 18
Christiania, 1 9 2
Christiansund, 2 2

Coal Products—
Carbolic Acid (Crude)
Rotterdam, 14 t. 10 c. 1 q. 7 lb.
Pitch
Antwerp, 103 t. 6 c.

Magnesia—
Barcelona, 2 t. 4 c. 1 q. 8 lb.

Manure—
Barcelona, 25 t. 5 c. 23 lb.
Hamburg, 50
Pernau, 685 2 q. 8
Milazzo, 141 5

Red Lead—
Copenhagen, 1 t. 6 c. 3 q. 27 lb.
Christiania, 4 8 2 9
Christiansund, 2 2 1 12

Rosin Oil—
Copenhagen, 1 t. 1 c. 1 q. 24 lb.

Salt—
Bergen, 7 c. 14 lb.
Trondhjem, 5 1 q. 24

Soap—
Trondhjem, 2 t. 4 c. 12 lb.

Sodium Sulphate—
Antwerp, 100 t.

Sodium Sulphide—
Copenhagen, 20 t. 1 c. 4 lb.

White Lead—
Rotterdam, 2 t. 15 c. 3 q. 12 lb.
Copenhagen, 8 18 3 22
Christiania, 1 9 1 24

GOOLE.

Week ending June 22.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Boulogne, 1 25 cs.
Dunkirk, 3
Hamburg, 25
Rotterdam, 12

Coal Products (*otherwise undes.*)—
Amsterdam, 268 cks.
Antwerp, 45
Hamburg, 100

Coal Products—
Pitch
Zeebrugge, 500 t.
Antwerp, 1,213

Colours—
Antwerp, 20 cks.
Boulogne, 45 5 cs.
Rotterdam, 1

Dyestuffs (*otherwise undescribed*)
Hamburg, 2 cks.
Antwerp, 9 2 cs.
2 brls.
Ghent,

Glue—
Boulogne, 2 bgs.

Manure—
Antwerp, 121 bgs.
Hamburg, 450
Dunkirk, 31 brls.

Soap—
Antwerp, 2 cks. 5 cs.

Zinc Ore—
Antwerp, 176 bgs.

GRIMSBY.

Week ending June 19.

Chemicals (*otherwise undescribed*)
Gothenburg, 74 cs.
Rotterdam, 25 cks.
Hamburg, 14 11

Colours—
Buxtehude, 9 cks.
Rotterdam, 1
Dyestuffs (*otherwise undescribed*)
Dieppe, 1 cs.
Rotterdam, 2

Manure—
Hamburg, 1,468 bgs.

Soap—
Hamburg, 41 pks.
St. Thomas, 30 cs.

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PRICES CURRENT.

FRIDAY, July 5, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids:—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	84	0	0
Arsenic, white powdered	nett ,,	34	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey). London	,,	11	17	6
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	50	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	10	0
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes:—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½	to	1¾
Benzol, 90's	per gallon	0	0	9
,, 50/90	,,	0	0	9½
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5½
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	99	15	0
,, Sulphate	,,	31	5	0
,, Oxide (copper scales)	,,	86	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	10	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	23	5	0
,, Litharge Flake (ex ship)	,,	24	0	0
,, Acetate (white)	,,	32	0	0
,, ,, (brown)	,,	26	15	0
,, Carbonate (white lead), pure	,,	24	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	6
,, ,, Miscible, 60° O.P.	,,	0	2	1
Oils:—				
Cottonseed	per ton	30	0	0
Linseed	,,	26	10	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	15	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 1/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	28	0	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	36	0	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	200	0	0
Zinc (Spelter)	,,	24	10	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	8	0	0

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THE

CHEMICAL TRADE JOURNAL

AND

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SOCIETY OF CHEMICAL INDUSTRY.

ANNUAL MEETING.

THE 1907 meeting of the Society of Chemical Industry, which was held at Birmingham on Wednesday last, marks a very important stage in its development. Founded in 1881 as the outcome of the activity of the members of the Faraday Club of St. Helens, the Society has now over 4,000 members in all parts of the world, and the formal announcement of the grant of a Royal Charter was very appropriately made on Wednesday by the retiring President (Mr. Eustace Carey) as a preliminary to his Presidential address.

The importance of the Society of Chemical Industry is well stated in the opening clauses of the Royal Charter. The Society was established to advance applied chemistry in all its branches; and to afford the members opportunities of interchange of ideas with respect to improvements in the various chemical industries, and for the discussion of all matters bearing upon the practice of applied chemistry, and the publication of information thereon. The Charter goes on to recite the fact that the Society now comprises amongst its members chemical manufacturers and manufacturing chemists, chemical engineers, metallurgists and metallurgical chemists, technological and consulting chemists, and other persons employed in or connected with manufacturing operations cognate to or allied with industrial chemistry, as well as professors and teachers of technology in the universities, colleges, technical institutes, and schools of the United Kingdom, and also many of the chemical and technological advisers of the various Departments of the Government. The Society's members are distributed throughout Europe, Canada, India, New South Wales, and other British Colonies and Dependencies, as well as the United States and Japan. Local Sections of the Society have been formed in the following centres:—Birmingham, Canada, Liverpool, London, Manchester, Newcastle, New England, New York, Nottingham, Scotland, Sydney (New South Wales), and Yorkshire. This recognition of the importance of the work of the Society should indeed, in the words of Sir Boverton Redwood on Wednesday, stimulate the members to higher ideals.

The annual general meeting was held on Wednesday morning, in the Medical Theatre of the Birmingham University, the President, Mr. Eustace Carey, being in the chair. Amongst others present at the opening were the Lord Mayor of Birmingham (Councillor H. J. Sayer), Sir Oliver Lodge, Sir Boverton Redwood (President-Elect of the Society), and Professor P. F. Frankland (Chairman of the Birmingham and Midland Section).

The Lord Mayor cordially welcomed the members of the Society to Birmingham, and Sir Oliver Lodge, in extending a welcome on behalf of the University, said that frequently a distinguished gathering of that kind was welcomed by universities

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by the conferring of honorary degrees on some of its leaders. That would be done in many university towns, but hitherto it had not been their way in Birmingham. They had thought they would do better to acquire a little antiquity and dignity before attempting to confer it upon others. No doubt they would have to do it when their new buildings were opened, as they hoped they might be some few years hence by His Majesty the King, but until then they abstained. Sir Oliver Lodge went on to explain that the arrangements for physics and chemistry in the present University buildings were only of a temporary nature. On the new site, at the further end of Edgbaston, twenty-four acres of their buildings had risen and were rising for the applied sciences, and already they had spent about half a million in building and equipment. They believed that their arrangements for instruction in applied science were in a more expensive, and he therefore hoped more thorough, style than anywhere else in the country. They had not yet attacked the building for applied chemistry. This seemed to be such an enormous and portentous subject that he did not know how to begin or what to recommend, but perhaps the members of the Society would be able to suggest some ideas.

The President acknowledged the civic and University welcome, and formally announced that the King had been pleased to grant the Society a Royal Charter. They owed their grateful thanks to the committee of the Council who had had the matter of the Charter in hand, and especially to the chairman of that committee, Sir Boverton Redwood.

REPORT OF COUNCIL.

The report of the Council was then read. The report shows that the number of members on the register is 4,521 as compared with 4,429 at the last Annual Meeting. During the year 323 members have been elected as compared with 356 last year; the losses have been 231 as against 253. There were 42 deaths as compared with 33 last year.

The names of those who have died are:—A. C. Bealey, Joseph Bernays, Col. S. B. Bevington, Edward Blass, S. Cabot, James E. Campbell, Dr. W. H. Chandler, W. H. Cowburn, George E. Davis, T. Sebastian Davis, M. G. Dearing, Sir David Gamble, Bart., Wm. Garroway, T. A. Gerard, Wm. Glenn, F. H. Gossage, J. G. Hepburn, Prof. A. S. Herschel, J. S. Heywood, Otto Isler, E. Jenner, H. Jonker, A. E. Lewis, Thos. Macfarlane, S. L. Morison, F. J. Odling, Robert Orr, Cornelius O'Sullivan, Ira L. Pierce, Hermann Poole, Jos. T. Potts, A. Ernest Powell, W. L. Rennoldson, Benjamin Roy, John Shaw, W. B. Skerten, Oscar Unglaub, E. Cecil Wren, F. Yates, F. F. Zehetmayr, and H. B. Zimmele.

The *Journal* of the Society for 1906, together with the Supplements, numbered 1,358 pages, equal to 56.6 pages for each issue, as compared with 55.6 in 1905. During the past session 111 original papers, with discussions, have appeared in the *Journal* as compared with 78 in the previous session.

The Revenue Act of 1906, which grants facilities for the use, without payment of duty, of spirits in arts and manufactures, received the royal assent soon after last meeting; it will be remembered that the Society has taken an active part in the promotion of this Bill. Congress has passed an Act for the United States on somewhat similar lines. An exhibit of plant of all kinds for the utilisation of denatured alcohol, under the direction of Prof. Munroe, is a special feature of the Jamestown Exposition.

A Bill has been introduced into the House of Commons to amend the existing Patent laws in the direction urged upon the Government by the Council in April, 1906, when it took part in a deputation to the President of the Board of Trade.

Evidence has been given, at the instance of the Council, before the Departmental Committee appointed to consider the participation of this country in international exhibitions, and before the Committee appointed to consider what industrial diseases should be scheduled in the Workmen's Compensation Act; and evidence is about to be given before the Royal Commission on Canals and Waterways.

The Council is also represented on a joint committee of scientific and technical societies, formed for the purpose of securing for their publications postal rates not less favourable than those charged on registered newspapers.

Addresses were presented on the occasion of the Jubilees of Sir William Perkin's discovery of the first coal-tar colour, and on that of the foundation of the Société Chemique de France.

In accordance with the recommendations of the Departmental Committee on the Royal College of Science, the Council, on the invitation of the President of the Board of Education, has nominated Dr. Edward Divers, F.R.S., to represent the Society on the Governing Body of the Imperial College of Science and Technology.

His Majesty the King has been graciously pleased to grant to this Society a Royal Charter of Incorporation. By-laws under the charter are now in preparation and will be submitted for approval early next year to the members in general meeting assembled.

An invitation to meet in Newcastle-on-Tyne in 1908 will be laid before the meeting.

THE PRESIDENT'S ADDRESS.

The President then delivered his address. He said:—Since you did me the honour of electing me to be the President of our Society I have been, as is very natural, much exercised and very anxious about the subject upon which I might venture to address you to-day. I hope that the few observations upon technical training and manufacturing methods which I propose to submit to you may prove acceptable. The subject is anything but new. Nevertheless, the interest is ever new, and always increasing. The ramifications even of a manufacture so simple as that of alkali are now so numerous that but few can have an intimate practical knowledge of all the processes involved when by-products are taken into account.

At first sight it perhaps might appear that the object of the alkali manufacturer is only to dissociate sodium and chlorine, to take into partnership oxygen and carbon dioxide, and to accept in the Leblanc process the temporary services of sulphur, and in the ammonia-soda process the temporary assistance of ammonia, and to produce three or four heavy chemicals, as they are called; but that is not the modern position. The compounds of sodium and chlorine are now very numerous in themselves, and when we add that, by whichever process alkali may be produced, heat and power are required, that gas from coke ovens and other producers is now beginning to replace solid fuel, the production of ammonia and of coal-tar products comes at once into view. In addition to this, in the Leblanc branch of alkali manufacture the field is wider still, involving, besides almost all the foregoing, metallurgy for the recovery of several metals and their compounds from the pyrites used in the sulphuric acid part of that process.

The field is very wide, the industry increasingly interesting, calling now for chemical and engineering knowledge hardly thought of fifty years age. Those were the days of a rapidly growing industry. Costs were of course important, but quantity was more so. We had the world for our market, and exports increased by leaps and bounds. The good old ignorant and jealous practical man was generally in command, and his rule, not always genial, was rule of thumb. By-products by which we now make our scanty living were thrown away.

During the time that has elapsed since then the struggle for existence has continually increased in intensity. That everyone will admit, but I affirm that the scientific interest has increased in at least the same proportion, and that though technologists engaged in an old trade cannot expect the rapid money-making success of fifty or more years ago, I believe the triumphs of skill and wide scientific training will be far more brilliant in the future than in the past. As my practical experience during the past fifty years has been almost entirely connected with alkali manufacture, I shall not venture far outside the alkali field for my facts and figures.

I will endeavour very briefly to deal with the following parts of my subject:—(1.) Processes and markets; (2.) Transport facilities; (3.) Fuel; (4.) Labour conditions; (5.) Education and training of managers, chemists, foremen and men.

(1.) *Processes and Markets.*—Mr. E. K. Muspratt, in his Presidential Address in 1885, described very thoroughly the principal technical changes that had taken place in the British alkali trade up to that date; including, of course, the most interesting history of the Leblanc process from small beginnings, when, in 1823, salt was freed from the shackles of the Inland Revenue Office, through the celebrated times of invention and enterprise, inseparably associated, as we here all know, with the names of Muspratt and of Tennant; including, in fact, practically the first half of the period to which I refer.

Mr. Muspratt's review enumerated very important improvements, such as the combination of Glover and Gay Lussac towers, which reduced the consumption of nitre in sulphuric acid manufacture to one-fourth of the figure at which it had stood previously; the black-ash revolver, which both increased production and decreased cost of alkali; the Weldon manganese recovery process, which reduced the cost of bleaching

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powder by £2. a ton ; the Deacon chlorine process ; and last, but not least, the introduction of the ammonia-soda process, the great and successful rival of the older Leblanc ; also the introduction of Spanish cupreous pyrites and the wet copper-extraction process. Of all these it is not necessary for me to speak. I will confine my remarks under my first head to the period subsequent to 1886.

Since 1886 there has been very material advances in the manufacture of sulphuric acid. The special conditions obtaining in Germany and the great demand there for sulphuric anhydride, consequent upon the enormous development of the German colour industry, led to some splendid researches on the contact method of oxidising sulphur dioxide into sulphuric anhydride with which the names of the Badische Anilin and Soda Fabrik, the Mannheim Chemische Verein, Haenisch and Shröder, and Dr. Messel will always be associated. Their success has been won after years of laborious and disappointing work, with how many delays due to ambiguous or apparently contradictory results perhaps only those who have assisted in working out large scale contact processes can guess. The contact process is now universally employed for the manufacture of sulphuric anhydride, and in many cases for the manufacture of the higher strengths of ordinary sulphuric acid. Whether or not in the future the contact process will replace the lead chamber method is hard to say. Before it does so, however, material advances will have to be made with respect to the life and cost for renewal of the contact material and the completeness of the reaction. We must on the other hand bear in mind that, during the last fifteen years, improvements have been effected in the old lead chamber process. This process, after the adoption of the Glover and Gay-Lussac tower combination, appeared to be a process leaving little room for improvement. The production from the sulphur employed was readily maintained at over 96%, the repairs were small, and the working cost low, the only drawback being the heavy capital expenditure. In France, I believe, first, and then in Germany and the United States, determined efforts were made to reduce this drawback ; in other words, to increase the production of sulphuric acid from a given chamber space.

The lines on which this has been effected are contained in the following sentence, which I quote from a brilliant paper read before the Liverpool Section in 1882 by the late Dr. Ferdinand Hurter :—" The reaction in the chamber produces a great quantity of heat which must be dissipated, as condensation can only proceed in proportion to the amount of heat removed ; " and Dr. Hurter proceeds to remark that " the introduction of the Sprengel water spray will probably lead to a reduction in chamber space."

Success in this direction has been attained by the use of water sprays in the leading chambers instead of the steam formerly employed to supply the necessary moisture, and by the use of intermediate towers in which the gases are cooled while passing from one chamber to another. By means of these devices the output of sulphuric acid chambers has been increased by about 40% without any material increase in the cost of manufacture. This intensified working is now very general on the Continent and in the United States, and is being slowly introduced into Great Britain.

Another very important improvement is the now well-known method of sulphur recovery, which we owe to Mr. A. M. Chance, and which is known as the Chance-Claus process, whereby the old trouble of vat waste has been finally vanquished. The Claus kiln part of the process is not yet perfect, as about 15% of the sulphur entering the kiln escapes, but considerable improvements are in sight, and it is reasonable to expect that the loss will be much reduced before long. In the meantime, Chance's beautiful process enables us to place upon the market sulphur of the highest degree of purity. With this addition, the history of the sulphur used in the Leblanc process forms a cycle of operations, commencing from the sulphur in the pyrites and passing through, successively, the conditions of sulphur dioxide and anhydride, sodium sulphate, calcium sulphide, hydrogen sulphide, and finally emerging as sulphur itself.

At one time it appeared that the rapid development of electrolysis would furnish a cheaper method of separating sodium from chlorine than a purely chemical process such as the Leblanc. Since Mr. Muspratt's paper, two very ingenious electrical processes have been worked out on a manufacturing scale, and are now in operation in large works, *viz.*, the Castner-Kellner and the Hargreaves-Bird. It seems to me, however, that there are two conditions which militate against any great development of electrolysis in soda manufacture in this country, neither of which is likely to be removed—the first is the low equivalent weight of sodium, and the second the rising price of fuel.

The later period has been less rich than the period dealt with by Mr. Muspratt in sensational technical developments, partly, no doubt, because the process is older and the more obvious improvements were already worked, but, in addition I think, very much from the fact that, the period having been one in the Leblanc industry at any rate of severe struggle, there has been less money available for expensive experiments which must always precede any great technical improvement. This period has been one of attention to details, improvement in yields and in fuel economy, and not of striking originality.

It always seems to me that, in the alkali manufacture at any rate, it is in times of prosperity and not of adversity that great advances have been made. The old text," to him that hath shall be given," has here again an application, that is, if he who hath does not wrap his talent in the napkin of sloth. The fact is that the last twenty years has, in the main, been a period of depression for the alkali and, indeed generally, for the chemical trades of this country, a fact of which individual experience has made the vast majority of us painfully aware. This period of depression, occurring simultaneously with great progress and expansion in other countries, notably in Germany and the United States, naturally turned the British mind from that condition of industrial satisfaction which, in the mid-Victorian age, coined the phrase " England the Workshop of the World," and which, in our more sober senses of to-day, we are forced to recognise as one of industrial jingoism.

The rapidity with which Britain's rivals have reduced the British industrial lead is due, I consider, in the case of the group of industries with which I am connected, to three causes, all of which have been dealt with over and over again. My only excuse for again bringing them forward is that I think they have not yet been sufficiently driven home to us. The three causes to which I refer are :—(1.) The failure of Great Britain in the nineteenth century to keep abreast of modern progress, not only in the giving of education, but, worse still, in the appreciation of it when given. (2.) The grotesque failure of the British patent law to secure for the general good that " consideration " for which alone the monopoly is granted. (3.) The loss of markets due to the protection and tariffs adopted by many of our old and important customers.

In dealing with the question of patent laws, the President referred to the agitation for reform, in which the Society has taken an important part, Mr. Ivan Levinstein, a Past-President, having been especially active. This agitation led to the appointment of a deputation from the Associated Chambers of Commerce to the President of the Board of Trade, and the case presented by this deputation was such that, in the opinion of the speaker, " no sane man could read the report without being convinced of the vital importance of reform." Reference was also made by the President to the Bill introduced by Mr. Lloyd-George, which he considers will deal effectively with the problem, and which, when passed into law, will for the first time give both British and foreign inventors a fair field and no favour.

The President next dealt with the question of loss of markets in the chemical trade, quoting statistics of the imports and exports of bleach, alkali and caustic soda for each year from 1870 to 1906. These figures show that exports of alkali and bleaching powder increased steadily up to 1880, after which they remained stationary until the early 'nineties, and then quickly fell away, while in 1900 a small but quite appreciable tonnage of imports of both alkali and bleaching powder made their appearance. The reduction in exports is shown by the following average figures.

	Soda Ash. Net exports.	Bleaching Powder. Net exports.	Caustic Soda. Exports.
	Tons.	Tons.	Tons.
Yearly average for six years ending 1885 ..	164,385	77,509	97,013
Yearly average for six years ending 1906 ..	58,211	34,732	77,509

In the opinion of the President the reductions are explained " not by our having been beaten by our foreign customers being able to manufacture more cheaply than we can, but simply by their fiscal policy, which practically excludes us from their

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markets." The import duties in the various countries are as follows :—

	Bleaching Powder.	Soda Ash.	Caustic Soda.
	£ s. d.	£ s. d.	£ s. d.
Germany	0 10 2	0 15 3	1 15 7
France	1 9 0	1 13 4	2 12 10
Spain	1 4 4	1 4 4	1 16 7
Russia	7 11 9	5 19 3	9 15 1
United States	0 18 8	1 14 6	3 10 0

Dealing next with the question of transport facilities, the President observed that Mr. Muspratt in 1886 read the signs of change very accurately when he pointed to the probability that industry in this country would be hampered by inferiority of transport as compared with the facilities enjoyed by other countries who are our industrial rivals. He was glad to think, however, that the Society was taking its part in pointing out the defects in our present system, and among the many able and distinguished men who were members of the Royal Commission on Canals and Waterways was one of the original members of the Society of Chemical Industry, the Rt. Hon. Sir John Brunner, who has for years been deeply impressed with the importance of removing this handicap of inferior means of transport. The figures collected by the Internal Transport Committee of the Society show that if the cost of transport were as low in this country as in Germany or Belgium, chemical products would be cheaper to produce by 10% of the whole price. The reason for the German and Belgian superiority appeared to be twofold: First: The railway charges themselves are much lower there than here for goods in Class C. of our railway classification. The rates there are only 60% of the rates here. Second: The fact that a large part of the goods traffic both in Germany and Belgium is carried by river and canal on which the rates are materially less than by rail. The President went on to quote the evidence of Sir Cecil Hertslet, the British Consul-General in Belgium, given before the present Canal Commission, and also a table giving an analysis of the through canal toll on a considerable acid trade of the United Alkali Co. It was hopeless, he said, to compare our canals with those on the Continent, when for a journey of 77 miles the toll worked out at .82 pence per ton-mile, and the biggest boat that could be employed was one carrying an 18-ton cargo. It could only be hoped that the real hard work being performed and the genuine enthusiasm shown by the Royal Commission would be productive of practical results.

Dealing with the third division of his subject—the question of labour—which, he observed, was perhaps the most difficult of all, the President said that the last half century had been marked by an advance in the rate of wages all round, but he believed that taken on the whole this advance in the rate of wages had not been accompanied by a corresponding increase in the wages per ton of product, owing to the improvement in production and conditions of labour. Throughout the period under review there had been a succession of what had proved to be on the whole wise and salutary measures taken by the Government to improve the condition of the workers. Apart from a few questions of detail, and in rare cases of administration, he did not think that the manufacturer was inclined to grumble with respect to the working of the Factory Acts. With regard to the Workmen's Compensation Act which came into force on July 1st, it was far too early to say what the effect would be upon the industries of the country and upon workmen themselves. He considered that this Act would be a step in the direction of universal national insurance. In the meantime, especially as the tendency for large employers of labour was to take the risk themselves, he feared that the effect would be to weed out the weak and ailing, the partially crippled, and the elderly.

The great question of shorter hours of labour, in other words of a universal eight-hours day, was, through the steady continuous pressure of the Labour Unions and the now comparatively large number of Labour Members of Parliament, being slowly drawn within the range of practical politics. This might become a serious danger to any but the most successful manufacturer. While no thinking man could help sympathising with and wherever possible aiding his employees to obtain more time for themselves, more time to live in their homes with their families and their hobbies, he did not think that the excellence of the object should blind us to the practical dangers of sweeping changes. He knew from his own experience that in some departments, where the work involved heavy physical or mental strain, the change from two shifts of twelve hours to three shifts of eight hours, even though it entailed the employment each 24 hours of an extra man on the same apparatus, resulted in a reduction of the labour cost per ton of product, and better yields. He knew, on the other hand, that in many instances, the compensating increase in output or reduction of waste, was not, and could not be obtained. In a word the general labour conditions were all tending, by actual rise in wages, by restriction of hours of labour, and by the extension of the legal obligations of the employer, to raise the total labour cost of products. The same tendency was showing itself in an even more marked degree in Germany. It was within his knowledge that, in the course of the last fourteen years, the average wages of process men and labourers in two large chemical works in the Rhineland district have risen 30%, and are now practically the same as Lancashire wages. In addition, the legal charges and liabilities of the employers for insurance and compensation are greater than in this country. The result will be undoubtedly, both in this country and in Germany, that there will be a large extension in the use of labour-saving machinery, and in devices which already have been developed with so much ingenuity and skill in the United States of America.

With respect to education, the President observed that for many years past the excellence of the scientific training in the German universities and technical high schools had been held up to us as a standard for this country to emulate. No one doubted to-day that much of the development of the German chemical industry was due to the large supply of highly-trained men available in that country for technical purposes. He was glad to say, however, that with regard to higher scientific education, there had been a marked development in England of recent years in the establishment of science departments in the old universities, particularly of Cambridge, and still more in the growth of the new universities—London, Manchester, Liverpool, Birmingham, Leeds, Sheffield, and South Wales. Considerable as were the changes that had taken place in the education of the staff in manufactories since the time when he first entered the chemical trade, they were dwarfed entirely by those which had taken place in the education of the men. He had watched one or two generations of boys grow up to men in their works in Widnes, and, whatever might be the deterioration in physique and stamina produced by exhausting work and town or even slum life, there was no doubt that the boys and young men of to-day were intellectually brighter than the boys and young men of fifty years ago. Defects there had undoubtedly been in the educational organisation, defects due to lack of system, and especially to the lack of adequately trained teachers, but the final result was a distinct improvement in mental acuteness. Before leaving altogether the question of education, he would like in the strongest terms to give his support to the principles underlying Professor Meldola's recent presidential address to the Chemical Society. The work of the pure scientist was inseparably connected with every department of material progress, and every progressive country owes it to its own fair name to bear its part in the advancement of knowledge of nature's laws. The maintenance and endowment of institutions and organisations for pure research, whether physical, chemical, or physiological was in his opinion, not only the duty of the community as a whole, but pre-eminently so of those to whom technical success has brought material prosperity. We had in this country a number of institutions devoted to research, but in his opinion one and all are insufficiently supported. Dr. Mond's princely gift to the Royal Institution was an example they would like to see imitated and he felt confident that an extension of the public and private support, not only to the Royal Institution, but to the National Physical Laboratory and the Research Fund of the Chemical Society, would not only increase our prestige as an enlightened and progressive people, but from the more sordid point of view of material prosperity prove a good investment.

In concluding his address the President said :—I must now draw my desultory remarks to a close, and, in doing so, apologise for this inordinate length. I only hope that some of the points I have mentioned may, from the very facts of their having been once again raised and discussed, be brought by ever so little nearer to a satisfactory solution. In the highly complex system of modern industry in which so many agents and factors, government, capital, technical training, labour, supplies of raw materials, transport, and markets each play an important and essential part, it is no easy matter to adjudicate the respective praise or blame for prosperity or adversity. While on the whole I do not wish to acquit the manufacturer or capitalist for the share he has undoubtedly taken in delaying the progress of our

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industries by the failure to demand the highest educational facilities for his staff, or even to make use of highly-trained brains when such have been available, it appears to me that want of foresight on the part of Parliament is responsible for a great portion of the disadvantages under which we have laboured.

Sir Boverton Redwood moved a vote of thanks to the President for his "eminently practical and most suggestive address." Mr. Carey had not hesitated to point out directions in which we should move with the object of placing ourselves in a better position to meet the ever-increasing keenness of competition from other nations. Undoubtedly this country occupied a position of great advantage as a centre of manufacture, but he supposed they must all admit that we had relied too much on our natural conditions. They were, he trusted, awakening to the fact that these conditions were not alone sufficient for the maintenance of commercial supremacy.—Professor Frankland, who seconded, spoke of the address as a most valuable contribution to chemical literature.—The resolution was very heartily carried.

It was decided, on the invitation of Dr. J. T. Dunn and Mr. N. H. Martin, supported by Sir Samuel Sadler (Middlesbrough), to hold the next annual meeting at Newcastle-on-Tyne.

A vote of thanks to the University of Birmingham was passed, on the motion of Dr. Edward Divers, and the company then proceeded to the Grand Hotel, where a luncheon was held.

In the afternoon a reception was given at the new University buildings at Bournbrook by the Vice-Chancellor (Alderman Beale) and the Principal (Sir Oliver Lodge). Tea was served in the Refectory, and afterwards a tour of inspection was made of those departments of the University where building operations have been completed.

On Wednesday evening a reception was held at the Council House by the Lord Mayor and Lady Mayoress (Councillor and Mrs. Sayer).

On Thursday the programme arranged for the visitors was a varied one. A number took train to Rugby for the purpose of visiting the works of the British Thomson-Houston Company in that town, leaving about mid-day for Coventry, where they inspected Messrs. Rudge-Whitworth's establishment. Another party visited the Earl of Dudley's steel works at Round Oak; others devoted their attention to the Staffordshire Steel Works, Bilston; while further contingents were shown over Messrs. Mitchells and Butlers Brewery at Cape Hill, the Birmingham Sewage Works at Saltley, the City Gas Works at Saltley, the Model Village at Bournville, and the Electric Power Station, Summer Lane. Following lunch a special saloon train conveyed a number of those otherwise engaged during the morning to Coventry, where visits were paid to the Daimler Motor Company's Works and the Automatic Machine Works, followed by a reception at the Charter House by Colonel W. F. Wyley and Mrs. Wyley. Other visitors who remained in Birmingham were entertained at the Central Fire Station by a display by the firemen, and subsequently a drive through Edgbaston brought the party to Walley Park Woods, where tea was served.

On Thursday evening a reception was given by Mr. Eustace Carey, at the Grand Hotel, followed by the Annual Banquet in the Grosvenor Room. The excursions, etc., were continued on Friday.

NITRATE OF SODA.

THE Chilian output in June, although only 673 tons larger than that in the same month last year at 152,718 tons, exceeded the estimates, and the market has consequently developed further weakness. Spot nitrate is quoted 10s. 9d. per cwt. in Hamburg, and next spring delivery is offered at 11s. 1½d., while there are sellers of prompt shipment under 9s. per quintal, f.o.b. Chili. The market is completely stagnant, buyers having withdrawn, and according to the leading Hamburg authority "it must be confessed that neither the past half year's consumption nor the Chilian output and the expected shipments justify prices sixpence per cwt. higher than those ruling a twelvemonth ago." The "export-cuota" of 45 million quintals for the current combination year has been officially confirmed, and it is expected that "only" 40 millions will be actually shipped. The latest encouragement for the market is in the shape of an inspired cablegram from Santiago, to the effect that large orders (*sic*) have been received from Indian cotton growers, who are prepared to take a considerable quantity of nitrate if the output is increased. The shipment of 786 tons to Buenos Ayres last month is also considered a good omen. In the meantime holders have been unable to dispose of four large cargoes arrived at port of call, one of these being ordered to a "secret" destination, the others to Hamburg, unsold.

THE ADULTERATION OF SODA CRYSTALS.

AT Acton Petty Sessions, on Wednesday last, before Alderman George Wright, M.C.C., and other magistrates, T. Batstone, a grocer, trading at Chiswick as Batstone's Stores, was summoned for two offences under the Merchandise Marks Act. The first offence alleged against him was for selling goods to which a false trade description, "soda," was applied; and the second was to applying to such goods a false trade description. Mr. Munby (Messrs. Munby and Nevile) appeared for Messrs. Brunner, Mond and Co. in support of the summonses. Defendant was not legally represented. He denied the offences, and elected to have the case dealt with summarily.

Mr. Munby, having briefly outlined the case, called Mr. Guyton Butler, who said he was in the employ of Messrs. Brunner, Mond and Co., and on the 7th ult. called at the shop of the defendant, 297, High-road, Chiswick, and there saw the manager, Mr. Rodd. He asked for several small articles, amongst others 7 lbs. of washing soda. While the manager was wrapping up the goods, witness handed him a written order for them, a copy of which he now produced. He explained to Mr. Rodd that he had purchased the soda with the intention of having it analysed, and asked from whom he obtained it. Mr. Rodd mentioned the London Salt Company as having supplied him with the article, and said it was purchased as a mixed soda. Witness reminded him that he had sold it to him as washing soda, and asked him if he supplied the article to his ordinary customers. He replied that if a customer asked for washing soda this article would be supplied; but that if he asked for pure soda he would be informed that he was being supplied with a mixed article. From the 7 lbs. of soda witness took four samples and placed them in separate bottles. One of these was sent to the Silvertown works of Messrs. Brunner, Mond and Co., for analysis, one was sent to the works of Messrs. Tyrer and Co., and a third was left with the defendant.

Frederick Blevins, assistant chemist to Messrs. Brunner, Mond and Co., gave similar evidence as to what happened when he accompanied the previous witness to defendant's premises.

Dr. Lamb, manager of Messrs. Brunner, Mond and Co.'s works at Silvertown, said the sample sent there for analysis contained 60% of soda and 40% of Glauber salts. Chemically, Glauber salts was sulphate of soda. It had no washing value at all, hardening the water instead of softening it. It would be exceedingly difficult for an ordinary person to distinguish Glauber salts from washing soda.

Mr. Thomas Tyrer, managing director of Thomas Tyrer and Co., Sterling Chemical Works, Stratford, E., Past-President of the Chemical Society, said the soda of commerce was carbonate of soda. Soda was a description known in the trade and to the public, and meant carbonate of soda without any admixture whatever. The price of pure soda was about three guineas per ton, that of Glauber salts about 30s. to 35s.

Mr. J. R. Davies, manager and secretary to Messrs. Western and Westall's, Limited, salt and soda merchants, said the ordinary description of soda known to commerce was crystallised carbonate of soda. He agreed with the evidence of Mr. Tyrer.

This completed the case for the prosecution.

The Chairman said the defendant was liable to a penalty of £20, or four months' imprisonment. The magistrates, however, did not wish to deal hardly with him. He would be fined £5, with three guineas costs.

CHEMICAL TRADE DEVELOPMENTS IN STAFFORDSHIRE.—It is reported that Messrs. Chance and Hunt, Ltd., of Oldbury and Wednesbury, have acquired land near Stafford, with the object of erecting a large chemical works. It is stated that the land in the vicinity has been proved to contain coal and salt.

ASSAM OIL CO.—The profits for the year were £24,652., but the directors do not, under present circumstances, feel justified in paying a dividend. They recommend that £17,500. be written off the depreciation account, leaving £7,152. to be added to the £6,710. brought forward from last year, and making the amount carried forward £13,862.

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Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice Warrington.)

IN RE AN APPLICATION BY COMPAGNIE INDUSTRIELLE DES PETROLES AND IN RE OPPOSITIONS BY PRICE'S PATENT CANDLE COMPANY (LIMITED), AND IN RE TRADE MARKS ACT, 1905.

The question in this case was as to the likelihood of confusion between "motorine" and "motricine" as trade marks. It was an application by way of appeal from the decision of the Comptroller of Trade Marks, who had refused to register a proposed trade mark which the applicants desired to have registered. It was at the same time an application by the applicants for rectification of the register of trade marks by excluding therefrom a trade mark of Price's Patent Candle Company (Limited) which was already on the register. Both applications were opposed by Price's Patent Candle Company.

In giving judgment on the 4th ult., Mr. Justice Warrington said that the applicants manufactured, and desired to register the word "motricine" as a trade mark for petrol spirit. That which the applicants called "motricine," and that which the opponents called "motorine," both were derived from petroleum, "motricine" being a petrol spirit highly explosive, and "motorine" being a lubricating oil from which the explosive spirit had been eliminated. Both the lubricating oil and the petrol spirit were sold, in ordinary trading, by the same class of people, and both were required for use by the same class of persons, so that in many respects the trade in regard to the oil and the trade in regard to the spirit were the same. Both the oil and the spirit were enclosed in tin canisters, so that the nature of the substance inside the tin was not ascertainable by a person who bought it until he came actually to open the tin and use it. The difference between the two substances then became apparent. In fact, one ("motricine") was a fluid liquid like water, while the other ("motorine") was a thick viscous fluid; but the difference was not apparent until actual use. Evidence had been produced as to the mode of sale and as to the use of the two articles, and the conclusion which he came to upon the evidence was that it was, to say the least, quite possible that a person who was not skilled and who should go to a shop where lubricating oil and petrol spirit were both dealt in, and who should ask to be supplied with "motorine," might instead have handed to him "motricine." That, on the evidence, was quite possible, and he came to that conclusion, not because the witnesses who had been called said that in their opinion it was so, but because upon the facts stated by them he had formed his own opinion that it was so. It was, therefore, quite possible that there might be confusion between the two terms "motorine" and "motricine." It, further, was quite possible, again to say the least, that the result of any such confusion might be actually serious, because, supposing a person who was unskilled were to open a can of "motricine" thinking it to be "motorine," as he might do, it was quite possible that some very serious disaster might happen, whether he were attempting to actually use the spirit for lubricating purposes or whether he were opening the tin under conditions which might expose the spirits to a naked light. That possibility of confusion if "motricine" were to be sold as "motorine," might thus result in serious consequences to the public and not merely to Price's Patent Candle Company. If that were so, what was the duty of the Court in this case? Three sections of the Trade Marks Act, 1905, came into consideration, the 11th, the 19th, and the 21st. Section 11 provided that "it shall not be lawful to register as a trade mark, or part of a trade mark, any matter, the use of which would by reason of its being calculated to deceive or otherwise be disentitled to protection in a Court of Justice, or would be contrary to law or morality, or any scandalous design." That section was practically the same as section 73 of the Trade Marks Act of 1883, except that in the earlier Act the restriction was confined to words calculated to deceive, and in the latter Act applied to any matter which would be disentitled to protection. Section 73 had been under the consideration of the House of Lords in the case of "Eno *v.* Dunn," and the principle on which the Court ought to deal with cases like the present seemed to be carefully expounded in that case. Having come to the conclusion of fact at which he had arrived above, he could only apply the principle of "Eno *v.* Dunn," that, if the applicants had not made out that the mark which they sought to place on the register would not, if registered, be calculated to deceive, their application ought to be refused. If it was calculated to deceive, it was not entitled to protection, and therefore was not entitled to be registered, as being disentitled under section 11. But it had been urged that the Court had a wide discretion, and that under sections 19 and 21 the Court could allow the registration under some limitation so as to avoid all possibility of deception. But his Lordship, holding that section 11 stood in applicants way, did not think section 21 ought to be applied in their avour. That last-mentioned section applied to cases coming under section 19. The result was that the decision of the Comptroller was right and the present application to register "motricine" must be refused. As to the applications to strike off the register the word "motorine" as the trade mark of the opponents, the Trade Marks Act, 1905, defined a registrable trade mark as containing or consisting of, at least, one of certain essential particulars, among them being "(4) a word or words having no direct reference to the character or quality of the goods." The word "direct" had been introduced into the Act for the first time. His Lordship did not see how "motorine" could have any direct reference to the character or quality of what it indicated. It was a trade mark for lubricating oil, and no doubt in some way denoted a reference to motors but it did not refer, least of all directly, to the character or quality of what it indicated. It was a good trade mark accordingly; but, even if it were not, the applicants' "motricine" would be open to the objection on the same ground. The result was, therefore, that the applicants failed under both heads of their claim, and their application must be refused with costs.

Reports of Companies.

SAN PAULO MATCH FACTORY, LTD.

The report for the period from April 20 to December 31, 1906, states that the purchase of the 10,000 shares of the Companhia Nacional (Brazileira) de Phosphoros de Seguranca was completed in terms of the contract with the vendors. The accounts of the Brazilian company show that the net profit for the year 1906, after making certain adjustment entries, was £18,496. Of this £1,506. was carried to depreciation account and £1,699. (10% of the balance of profit), under the statutes of that company, was placed to reserve account, the balance, £15,291., being credited to the profit and loss account. The proportion of profit from January 1 to April 19, not being available for distribution, is carried to a reserve fund, and after debiting the profit and loss account with debenture interest, sinking fund, administration and an amount on account of preliminary expenses, there remains a balance of £3,508.

WILLANS AND ROBINSON, LTD., AND REDUCED.

The company announce that the scheme for the reduction of its capital has been submitted to the High Court and has been confirmed. The Registrar certified the registration of the Order and Minute on the 25th ultimo, and the reduction is complete.

The funding certificates in respect of the arrears of preference dividend will be issued to all holders of preference shares whose names appeared on the register of members on June 25. The certificates will be issued as soon as they are ready. Shareholders' certificates will be issued as soon as they are ready.

Shareholders who desire to appoint a nominee, in lieu of taking up the funding certificate themselves, must sign the "letter of renunciation," and their nominee, who must be of full age, will also sign it, and forward it to the company by July 23, 1907, otherwise the funding certificate will be registered in holder's name.

NEW EXPLOSIVES, LTD.

The report covering the period of the first eight months' trading by the new company (from July 1, 1906, to February 27, 1907), states that the directors regret that the keen competition, which had made itself felt prior to the reorganisation of the company, still continues, and has resulted in a trading loss for the period under review of £4,004., to which has to be added £773, the cost of the formation of the new company, leaving a debit of £4,777. to carry forward.

DIVIDENDS.

The Tyee Copper Company recommend a dividend for the past year of 7½%.

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MANGANESE INDUSTRY IN INDIA.

FROM the Central Provinces, the manganese mines and quarries of the Nagpur, Bhandra, and Balaghat districts, it is expected to export 200,000 tons this year. The construction of the proposed new railway will assist the industry, and the smelting of the ore locally is possible in the future. The development of the manganese industry in the Central Provinces is still rapid, but the chief obstacle to its progress is scarcity of labour. As a rule, the work is done by contract. During 1905-6, 17 mines were at work, giving an output of over 50,000 tons over the 85,000 tons extracted the preceding year; but these figures do not include the output from shallow workings. The total value of the 1905 output is valued at Rs.3,54,148.

The Government of India is investigating alleged irregularities in the granting of licenses for manganese mining in Mysore. It is the desire of the Government to prevent monopolies, and to provide that no individual or company has a greater area than 10 square miles. Already several companies working in Mysore control areas of more than one hundred square miles, and into these matters an investigation is taking place.

Since the discovery, early in 1906, of manganese ore in the Portuguese Settlement of Goa, there have been no less than some 250 applications for mining concessions sent in to the Government. So far concessions have been granted to some half-dozen concerns, covering in all about a score of mines, some of which are situated near tidal water and not many miles away from the port of Marmugao. The ore in some cases appears to be of exceptionally good quality, and the geological formations in many parts of the country appear to be highly metalliferous. As incentives to the development of the industry the restrictions concerning mining and prospecting are not onerous, and the taxes on mines and their output are at present light. The port of Marmugao has begun to attract the Mysore export trade in manganese ore, and during the twelve months November, 1905-6, some 40,500 tons were received at the port for shipment to Europe.

THE TRADE OF CRETE.

IN reporting on the Cretan trade for the first six months of 1906, Mr. Vice-Consul Wyldbare Smith states that the value of the Cretan export trade during the period January-July, 1906, was £167,038. in excess of that for the same period in 1905. This is mainly accounted for by the very large export of olives and their products, the export of olive oil amounting to 175,802 cwts., or 122,991 cwts. more than had been exported during the first half of the preceding year.

The olive and olive oil export was, during the period under review, 175,802 cwts., valued at £211,618., as against 52,811 cwts., valued at £67,801., during the first six months of 1905. This article is disposed of throughout Europe, the United Kingdom and Egypt being the most important consumers. The 1905 crop was one of the best on record, hence the large quantity exported in 1906.

CANDIA.

Mr. Acting Vice-Consul Catocherino reports that a great part of Candia olive oil (2,500 tons) was exported to the United Kingdom during 1906, and two-thirds of the whole wine crop is sent yearly to Malta by Maltese vessels.

RATHYMO.

The olive harvest was poor, but there remained a large stock from the preceding year, which was very good (about 9,000 tons), and, on account of the harvests in Italy and Spain having been poor, the price of olive oil remained high, and was highly satisfactory to the merchants and growers. The United Kingdom figures as one of the most important importers.

KINTA TIN MINES, LTD.—Registration has been made of a debenture dated June 12, 1907, to secure £7,000., charged on the company's undertaking and property, present and future, including uncalled capital, registered.

MINING IN GALICIA.—H.M. Consul at Corunna reports that great interest has arisen as regards mining in Galicia. Representatives from Great Britain and other countries have made investigations and announce the existence of iron and copper ore, all of good quality. Owing to the absence of railways in the inland districts and harbours along the coast, the difficulty of transport will be considerable.

Egyptian Notes.

IN his report on the trade and commerce of Port Said for 1906, Mr. Consul-General Cameron notes the following imports and exports :—

1,200 tons of liquid fuel, valued at £1,170.E., were deposited in the Shell Company's tanks at Port Tewfik, Suez, as against 7,581 tons in 1905.

51,517 cases of petroleum, valued at £8,322.E., were imported, and also 3,412 tons in bulk, valued at £12,161.E.

A slight decrease is again shown in the importation of indigo, the quantity imported for the year 1906 being 476 tons, valued at £117,564.E. The artificial or synthetic indigo (all of which was imported from Germany into Egypt through Alexandria) has increased from 306 tons in 1905 to 391 tons in 1906.

530 tons of cottonseed were imported from Suakin in the same period. The importation of gum from Suakin was 2,589 tons. The gum is sent to Suez for storage. It is then selected and divided, according to quality, white and red, large and small, and then re-exported according to demand.

6,393 tons of gum were exported, valued at £130,900.E., an increase of 1,578 tons in weight and £12,906.E. in value for the year 1906.

THE RESIN AND TURPENTINE INDUSTRY IN FRANCE.

ACCORDING to the British Consul at Bordeaux, the exports of resin and pitch amounted in 1906 to 568,529 cwts., a decrease of 334,929 cwts. on the previous year. The United Kingdom received 167,118 cwts., a decrease of 165,780 cwts. Prices for resin ranged during 1906 from £1. to £1. 7s. 2d. per two cwts., net, f.o.b. Bordeaux, qualities most in demand in the United Kingdom being K., M., N., W.G., W.W., and W.W. extra.

The turpentine exports amounted to 174,748 cwts., an increase on 1905 of 24,498 cwts.; the United Kingdom received 28,005 cwts., a decrease of 7,859 cwts. Prices for essence of turpentine during 1906 ranged from £3. 15s. 2d. to £4. 17s. 7d. per two cwts., net, f.o.b., Bordeaux.

Trees 70 years old, when bled "to death," can yield 1.32 gals. of resin each per annum—*i.e.*, 5.28 gals. a tree during four years tapping. An extent of forest containing 200 trees about 50 years old can produce an average yield of 88 gals. of resin a year. After deducting cost of transport and taxes, £1. 12s. 6d. per acre would remain to be divided between the resin maker and the timber owner, leaving the latter the value of the tree to be ultimately felled. This revenue can be counted on for twenty years. Many saw mills, some supplied with all modern requisites, have arisen in the Department of the Landes. Both factory and locomobile engines are furnished with special appliances for burning sawdust, pit props and firewood being the only things turned out by hand labour.

TIN PRODUCTION IN BOLIVIA.

H.M. CONSUL at La Paz reports that the amount of tin barrilla exported in 1906 was 63,848,626 lbs. Spanish. In 1905 the amount was 60,194,828 Spanish lbs.

The proportion of tin produced by the various departments was as follows :—

Department.	Quantity. Pounds Spanish.	Equivalent in Kilos.
Potosi with Uyuni, Tupiza, Colquechaca and part which is exported through the Custom house at Oruro	34,075,669	15,674,808
Oruro	25,892,342	11,910,477
La Paz	3,800,415	1,748,191
Cochabamba	80,200	36,892
Total	63,848,626	29,370,368

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Our Book Shelf.

Van Nostrand's Chemical Annual, 1907. Edited by John C. Olsen, A.M., Ph.D., with the co-operation of eminent chemists. Pp. 496. London: Archibald Constable and Co., Ltd. 1907. 12s. 6d. net.

The authors have essayed to present to the busy worker, in as condensed a form as possible, the essential portion of the vast accumulation of chemical knowledge which is at present scattered through numerous works and periodicals. That they have succeeded may, we think, be granted. The work contains the ordinary tables met with in most chemical handbooks, but in addition to these there are several noticeable features. On page 10 there begins a long table of gravimetric factors and their logarithms, which to a chemist who is thoroughly conversant with logarithms will be of great assistance. The bulk of the space of the work, however, is occupied by a useful table of organic and inorganic compounds with their principal physical and chemical data. The atomic weights adopted throughout are those compiled by the International Committee on Atomic Weights, and are based on O = 16. To the English chemist the excellent tables dealing with the chemical composition and heat of combustion of coal will not be of much use, as the data refers to American fuel.

An excellent feature of the Annual is a list, commencing on page 419, of the more important articles which have been published since January 1st, 1905. This list is divided into the following chapters:—Analytical Chemistry; General Inorganic Chemistry; Industrial Chemistry; Organic Chemistry; Physical Chemistry; and Radioactivity, each of which is subdivided into sections. At the end of the book a list of the more important works which have been published since January 1st, 1905, is given. These books are classified under two heads:—English and American, and foreign books, mostly German, the latter section also containing references to the journals in which the works are reviewed.

The Annual is worthy of a better preface, and we trust that in subsequent volumes its opening sentences may be so far altered as to be at least grammatically correct.

Systematic Practical Organic Chemistry. By G. M. Norman. B.Sc., A.I.C.Sc., F.C.S. Pp. 98. London: W. B. Clive, University Tutorial Press, Ltd. 1907. 1s. 6d.

This book, the author tells us, has been written to meet the requirements of the syllabuses issued by the Board of Education for Stages I. and II. in Practical Organic Chemistry, and forms part of the Organised Science Series. The work is practically a collection of systematically arranged notes on the preparation of such compounds as are likely to be met with in the syllabus. Its production is of that order which we now expect from such a press as Messrs. Clive's.

Practical Methods of Inorganic Chemistry. By F. Mollwo Perkin, Ph.D. Pp. 155. London: Archibald Constable and Co., Ltd. 2s. 6d. net.

Preparative work in inorganic chemistry does not, in the opinion of the author, receive the attention which it deserves, and accordingly this little book is written to enable students to carry out such work and so become better acquainted with the nature of the compounds commonly met with. The preparation of the ordinary inorganic compounds is described, and there is also a chapter on special work, such as the purification of mercury, colloidal solutions, and the preparation of a few organic compounds.

New Copper Smelter at San Francisco.—The American Smelters' Securities Co. have commenced operations on their new smelting plant at San Bruno Pt., San Francisco. Plans have been prepared for the erection of buildings to cover an area of ten acres; in all 250 acres of land have been purchased. The smelter will involve an outlay of five million dollars, and it will handle annually from $10,000,000 to $20,000,000 worth of copper, base gold, and silver ores, which will come from mines all along the Pacific coast, and also California, Mexico, Nevada and South America. The new plant will only handle copper ores, and it is stated that mines near at hand producing 2% copper can be profitably worked on the completion of this smelter.

LONDON QUARTERLY INDIGO SALES.

Messrs. Millward and Co. report as follows, under date July 8th:

The third quarterly sale of the year took place to-day. Of the 720 chests declared, 70 chests have been withdrawn, leaving 650 chests to be brought forward, classified in comparison with the corresponding sale last year as follows:—

	1907.	1906.
Bengal	250 chests	384 chests
Kurpah	340 ,, ...	70 ,,
Madras	35 ,, ...	119 ,,
Figs	6 ,, ...	32 ,,
Musters, Java, &c.	19 ,, ...	5 ,,
Total ..	650 chests	610 chests

Bengal continues in extremely small supply, ordinary and medium grades being very scarce. Most of the lots submitted were good and fine, which qualities afford at present the best relative value. Kurpah comprises a better selection than for some time past, and includes some desirable lots of more than average strength. Madras and Figs are in meagre compass and are of ordinary quality.

The market during the past quarter has been steady, with a limited but regular inquiry. More business has been reported for export than for the home trade, but the latter may show more life when the direct importations from India are exhausted. Deliveries from Manchester stock have been fairly good, and the quantity now held at that port is smaller than usual. There are numerous indications that when indigo is forthcoming in larger quantities and at lower prices a revival in home trade consumption will immediately follow.

Unfortunately climatic conditions in India continue to be unfavourable, and the long sequence of bad seasons has not yet ended. The ready disposal of the last crop at satisfactory prices so restored confidence as to cause an increased area to be put under cultivation, but the weather during the last few months in the indigo growing districts has proved almost as abnormal as in this country. At the time of sowing there was too much rain, and re-sowings had to be made. Then a prevalence of hot dry winds scorched the young plants, and prevented proper development. When the rains did come they proved excessive, and the first cuttings gave disappointing results. There are, however, prospects of better second cuttings than last year, and, although the quality is not likely to be equal to last year's excellent average, the quantity may still show some increase providing no further climatic calamities ensue. Guatemala and Java are scarce and command good prices.

Deliveries, January 1st to June 30th.		Stocks in London, July 1st.	
1907.	1906.	1907.	1906.
1,533 Chests	1,634 Chests	3,059 Chests	3,232 Chests
428 Serons	451 Serons	290 Serons	628 Serons

There was a moderate attendance at the sales, but buyers acted cautiously, and only purchased to cover actual requirements. The few medium Bengals available realised relatively high prices; fine qualities are held for an advance. Of the 720 chests declared, 220 were sold and the remainder withdrawn.

Prices may be quoted practically unchanged, good Bengal being rather dearer, and undesirable Kurpah slightly easier. Present currency is:—Bengal 2s. 9d. to 4s. 6d. per lb.; Kurpah 1s. 6d. to 2s. 10d. per lb.; Madras 1s. 6d. to 2s. 6d. per lb.; Figs 1s. 4d. per lb.; Guatemala 2s. 3d. to 3s. per lb.; Java 3s. to 5s. per lb.

Cement Exports from Bordeaux.—Exports of cement from Bordeaux amounted in 1906 to 6,578 tons, an increase compared with 1905 of 5,410 tons. None was shipped to the United Kingdom. The average for the last five years stands at 1,827 tons, the average to the United Kingdom being 47 cwts.

The Omutnoi Platinum Deposit.—The *Permskya Viedomosti* says that for some time the production of platinum has been vigorously pushed in the newly discovered deposit on the River Omutnoi, on the Polevskoi estate near the Systersk Mining Works. About nine pounds of platinum are produced per week, and about 400 hands are employed at the mines. According to the Ekaterinburg press, the Perm platinum producers have been asked to send samples of platiniferous sands to the Geological Survey Department of the United States for purposes of analysis.

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Parliamentary Jottings.

HOUSE OF COMMONS.

Monday, July 8.

MINERS' (EIGHT HOURS) BILL.

On Monday last, in reply to a question by Sir J. Randles, the Home Secretary (Mr. H. Gladstone) said he hoped to introduce the Miners' (Eight Hours) Bill next week.

THE GOVERNMENT TELEPHONE SYSTEM.

The Standing Committee of the House of Commons completed the Committee stage of a Bill providing for the allocation of six millions sterling for the development of the Government telephone system.

An amendment, proposing to reduce the vote to three millions, was rejected by 19 votes to 3. Mr. Buxton (Postmaster General) stated that it was not intended to borrow the whole or even half the amount at once, and in view of the fact that the purchase of the telephone companies undertaking in 1911 would give Parliament an opportunity of reviewing the whole situation, he did not think it right that the development of the Government system should be curtailed as proposed, especially as the Treasury would have full control over every item.

TRADE DISPUTES ARBITRATION.

The text was issued of a Bill presented by Mr. Cleland to promote and facilitate arbitration in trade disputes. The Bill will make it lawful for the Board of Trade, at the request of either party or a majority of the same, to make provision for the settlement of any dispute between employer and workman by arbitration, and to establish a court to be constituted of members nominated in the following manner: Two by the employer or class of employers, two by the workmen or by the different classes of workmen, and one by agreement between the parties to the dispute, or, failing agreement, by the Board of Trade, and the member so nominated shall act as chairman of the board of arbitration. If either or any of the parties to the dispute fails to appoint a member or members of the court within a fortnight of being notified by the Board of Trade, the President of the Board of Trade may make the appointment or appointments.

THE SUGAR CONVENTION.

In reply to Mr. Seaverns, Mr. Runciman said that Sir E. Grey was not in a position for the present to make any further statement on the possible withdrawal of Great Britain from the Sugar Convention. The proposal which His Majesty's Government had made was before the other Powers who were parties to the Convention, and it was not known what decision would be arrived at respecting it.

Analytical Notes.

QUARTZ APPARATUS.

The possibility of constructing vessels for chemical work from fused quartz has long been a dream of chemists. The refractory qualities of this mineral, rivalling those of platinum itself, its hardness, and resistance to acid corrosion, sufficiently entitle it to a high place in the list of desirable materials for chemical utensils.

To these must be added the unique property of practical indifference to the expanding effect of heat. So marked is this property that articles of fused silica, of considerable thickness as compared with vessels of glass and porcelain, may be heated to redness and suddenly cooled without risk of breakage.

Against these advantages there has been hitherto the drawback of high price. The labour of building up a vessel piece by piece with the costly oxy-hydrogen or oxy-acetylene flame renders impossible the cheap production of vessels in quartz, and only those to whom economy is not a consideration can provide themselves with such luxuries.

As the result of long research the Thermal Syndicate, Ltd., of Wallsend, have succeeded in manufacturing and placing on the market such articles as muffles, basins, tubes, and sheets in semi-opaque fused silica, at prices which bring them within the reach of all chemists. The industry is young, and further improvements are already in sight, and chemists may hope to see the field of usefulness for fused silica extended in the near future. Demand is bound to stimulate supply, and every encouragement should be given to an industry so important to the analytical chemist.

Continental Notes.

WHETHER or not Archimedes understood how to determine the specific gravity of solids has been a matter of some discussion, and is of interest as throwing a light upon the amount of experimental skill possessed by the ancient Greeks. According to the particulars given by Prof. E. O. von Lippmann in the *Chemiker-Zeitung* for June 19, there can, however, be little doubt that although Archimedes had no word for the conception of specific gravity, he quite understood its nature, for in the writings of Vitruvius and of various Arabian writers there are instructions given for determining this constant, and the methods have evidently been obtained from Archimedes. Moreover, the results were used to ascertain the genuineness or otherwise of electrum and gold. Not only was the specific gravity ascertained by measuring and weighing the object, but also by observing the loss of weight in water. In the same issue, E. Gerlach continues his account of the recent developments in electro-technology, giving special attention to such objects as the new electric glow-lamps with filaments made of metals such as osmium, tantalum, and tungsten. The last named especially appears to give very good results.

A. Stahler writes on the determination and separation of bismuth and mercury by the sodium phosphate method.

In the issue of June 22, Emil Sauer discusses the question of fermentative as opposed to chemical acidification in the manufacture of spirit. It is, of course, necessary to keep the wash acid during the fermentation in order to assist the action of the yeast, and also to prevent the development of foreign bacteria. The author describes the experiments and investigations he has made to ascertain the comparative value of the lactic acid process for producing this acid, and a special sulphuric acid process of his own, which is now in use in a number of factories, and is claimed to be considerably more economical than the ordinary method.

Dr. Ottomar Thiele writes suggesting the production of ethereal oils from Samoan flowers and drugs. He points out that in the Pacific islands the conditions are very favourable to the development of this industry, and that the capital outlay would not require to be very great. Such scents as Ylang-Ylang could be produced, at least in the crude state, and could be sent to Germany to be worked up. In this way the cost of transport would be saved, as also the great losses that occur in the drying and carriage of these delicate natural products. The establishment of this industry in the German colonies would help to break down the monopoly which is at present to a large extent in the hands of Americans. A method for the preparation of selenic acid from selenious acid is given by R. T. Glauser. When an aqueous solution of selenious acid is submitted to electrolysis, selenium separates at the cathode and selenic acid at the anode, and by suitably arranging the conditions it is possible very greatly to increase the proportion of selenic acid produced. The best method is to electrolyse a concentrated solution of selenious acid in concentrated nitric acid at a temperature of 50° to 80° C, with a current density of 4 to 5 amperes to the square centimetre.

In the same issue there is a description of some new forms of holders for test-tubes, thermometers, and flasks.

In the *Chemiker-Zeitung* for June 26, Dr. R. Ditmar gives an account of a series of experiments that he has carried out to ascertain the effect upon indiarubber of vulcanisation under very high air pressure. He found that under a pressure of 15 atmospheres the velocity of vulcanisation was several times as great as under one atmosphere. The elasticity and percentage of combined sulphur were also better. The only disadvantage was that the vulcanised rubber was oxidised more easily and rapidly.

In the same issue, M. R. Moffat and H. S. Spiro describe a method for colorimetrically determining the lead in water, the method depending upon the formation of a blue colour when haematoxylin is added to water containing a trace of lead.

E. Knecht gives a sensitive reaction for titanium, depending upon the decolorisation of a dilute solution of indigo or methylene blue.

A method for detecting phosphorus sesquisulphide in match-heads is described by L. Wolter. It depends upon the fact that in carbon bisulphide solution a molecule of the sesquisulphide combines directly with two atoms of iodine to form a yellow compound $P_4S_3I_2$, which can be made to separate in yellow crystals by cooling the solution to 0° C.

There is also a description of a stoneware centrifugal, provided with a circulating mechanism for the liquid. The machine is specially recommended for nitrating, and impregnating fibrous material.

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, and colours exported during June, 1907, as compared with June, 1906:—

ARTICLES.	QUANTITIES. Month of June. 1907.	1906.	VALUE. Month of June. 1907.	1906.
			£	£
BLEACHING MATERIALS:				
To U.S.A. .....Cwts.	73,304	40,659	14 731	8,391
„ Other Countries „	27,854	21,756	6,773	4 985
Total ..... „	101,158	62,415	21,504	13,376
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	129,752	141,041	27,875	23,786
Carbolic Acid .. „	12,478	8,196	14,794	10,152
Naphthalene and Anthracene ... „	10,589	4,078	2,069	1,156
Other Sorts .... „	614,266	668,484	70,336	66,003
Total ..... „	767,085	821,799	115,674	101,097
COPPER, Sulphate of. Tons	3,457	3,372	107,496	81,661
CREAM OF TARTAR Cwts.	102	128	367	499
DYE STUFFS:				
Products of Coal Tar ..... „	3,841	2 157	14,868	9,225
Other Sorts ... „	12,707	12,285	12,192	15,278
Total ... „	16,548	14,442	27,060	24,503
GLYCERINE .....Cwts.	19,848	11,176	37,505	20,608
MANURE (Chemical):				
To Germany .. Tons	3,256	2,749	28,470	24,736
„ Belgium ..... „	85	72	605	449
„ France .... „	1,728	797	7,668	3,431
„ Spain & Canaries „	5,560	4,185	51 266	40,969
„ British West India Islands (including Bahamas) & British Guiana .. „	1,176	1,670	11,242	18,635
„ Other Countries „	19,680	25,144	160,369	171,139
Total .... „	31,485	34,617	259,620	259,359
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	65,799	104,066	3,170	4,985
Unenumerated Value £	—	—	131,095	111,326
Total	—	—	134,265	116,311
MURIATE OF AMMONIA ....Cwts.	10,853	10,639	13,666	14,169
PAINTERS' COLOURS AND MATERIALS:				
White Lead ..Cwts.	27,671	29 311	33,459	31,517
Nickel Oxide ..... „	3	46	18	158
Zinc Oxide .... „	6,547	4,970	7,794	6,028
Other Sorts ..... „	123 789	120,731	160,821	154,657
Total ... „	158,010	155,058	202,092	192,360
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	198 404	125,241	45,840	27,700
„ Bicarbonate „	32,995	33,639	10,302	11,263
„ Caustic ..... „	117,737	163,985	59,022	81,761
„ Crystals ... „	20,326	13,438	3,300	2,217
„ Sulphate (Saltcake) „	90 515	69,149	6,614	5,112
„ Other Sorts „	40,606	29,807	37,449	10,764
Total ... „	500,283	435,259	162,527	138,817

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of Jnue. 1907.	1906.	VALUE. Month of June 1907.	1906.
			£	£
SULPHURIC ACID ..Cwts.	6,785	9,697	2,904	4,315
TARTARIC ACID .. „	96	154	504	757
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) ....Value £	—	—	216,204	223,263
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	373	895	304	604
„ Belgium ..... „	2,292	2,098	1,084	1,404
„ U.S.A. ..... „	2,816	3,638	4.015	4.403
„ British E. Indies „	27,653	18,440	16,264	9,319
„ Australia .... „	1.402	4,198	1,369	3,722
„ New Zealand . „	485	161	793	256
„ Canada ..... „	7,657	8,111	7,371	5,961
„ Other Countries „	17,731	24,194	13,974	16,935
Total ..... „	60,409	61,735	45,174	42,604

SHIPPING RINGS.

AT the last sitting of the Commission appointed to inquire into the effect of the working of shipping rings on trade, Mr. Douglas Owen said that in the summer of 1904 he was requested by the Colonial Office to proceed to Johannesburg to assist, as an impartial expert, at a conference called by Lord Milner, at the instance of the trading committees of South Africa, to consider the relations between the traders and the shipowners. A South African shipping "ring" was then in operation. The most serious of the merchants' complaints, he thought, was that of giving an unfair preference to American shippers. The complaint was well founded, though it was necessary to analyse it, more especially as the traders were primarily championing the cause of the consumer, who was understood to be the principal victim of the ring. If the rates charged on the goods from England were on their own merits reasonable, it was not evident in what way the consumers, as such, were injured by a system which enabled them to buy American manufactures cheaper than English. That the system was highly prejudicial to British manufacturers was evident enough, but this did not hurt the South African consumers, as such. An impartial review of the facts made it abundantly clear that the disadvantages of the ring system, as well as its advantages, were very notable. But whereas the advantages mainly accrued to the South African traders and to the shipowners in the ring, the disadvantages fell largely on those British manufacturers whose goods had to pay a higher freight than those of their American competitors. If the system was objectionable, however, clearly the traders were themselves to blame. They lent themselves to it solely for the advantages which they expected to get, and generally did get. He suggested that the shipowners should declare that in the event of a freight war rendering it necessary for them in their own interest to carry American goods at lower rates than British goods, they should share with the British manufacturers injured any extra discount specially granted by the manufacturers in order to neutralise the saving in freight accorded to the Americans. This would be evidence of a desire of the ring not utterly to disregard the rights and well being of British manufacturers, and would also be a security that the ring would do their utmost to avoid a freight war. In his opinion the loss really suffered by the manufacturers was by no means so heavy as individual instances might lead it to be supposed, and the burden on shipowners would in consequence not be heavy. Should the shipowners accept the proposition, his opinion was, as regarded other questions, that the traders and the shipowners might well be left to settle their differences in South Africa as similar differences had been settled elsewhere.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Hygroscopic Disinfectants. R. Houben. 14,524. June 24.
Apparatus for Drying Materials. A. Volland. 14,528. June 24.
Production of Black Solid Tannin, Black Dye, and Black Cutch. P. A. Newton. 14,532. June 24.
Gas Producing Apparatus. F. J. H Brombam 14,539. June 24.
Ethers of Borneol and Isoborneol. A. Verley, C. Urbain, and A. Feige. 14,549. June 24.
Oxidising Borneol or Isoborneol for the Manufacture of Camphor. A. Verley, C. Urbain, and A. Feige. 14,550. June 24.
Smokeless Fuel. S. O. Cowper-Coles. 14,553. June 24.
Mineral Oil Products. R. Hense. 14,671. June 25.
Smokeless Fuel. S. O. Cowper-Coles. 14,678. June 25.
Oil Filters. A. Winton. 14,679. June 25.
Superheater. W. Marchant. 14,689. June 26.
Sulphurised Dyestuffs. A. G Bloxam. 14,746. June 26.
Hydro-extractors. H. Diamanti and N. Beuf. 14,764. June 26.
Furnaces, Kilns, Ovens, etc. J. Bland. 14,789. June 27.
Briquettes. A. Tavernier 14,795. June 27.
Concentration of Metallic Ores. D. H. Norris. 14,806. June 27.
Kilns for Drying China Clay, etc. A. Angilley. 14,817. June 27.
Thio-indigo Series Dyestuffs. O. Imray. 14,846. June 27.
Soap. L. Bier. 14,869. June 27.
Filtering Apparatus. F. Candy. 14,981. June 29.
Fractionating Petroleum. W. C. Wells and F. E. Wells. 15,036. June 29.
Treating Tin Ores. P. Jensen 15,039. June 29.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Soap Manufacture. Henderson. 14,784.
Hydro-extractors. Sutton. 15,744.
Filtering Process. Ellis and Slade. 16,558.
Electrolytic Production and Separate Collection of Gases. Wetter. 17,981.
Acetylene Blow-pipes. Harris. 23,447.
Centrifugal Separators. Knudsen 25,327.
Stirring Arms for Roasting Furnaces. Lean. 27,061.
Electric Transformer Furnaces. Frick. 29,271.

1907.

Electric Induction Furnaces. Soc. des Procédès Gin pour La Metallurgie Electrique. 1,080.
Crystalline Hydrate of Potash. Salzbergwerke Neustassfurt und Theilnehmer. 6,405.
Di-chlor-ethoxy-ethylene. Imbert. 5,014.
Dimethylamine Derivatives. Farb. vorm Meister, Lucius and Brüning. 10,025.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Smelting Ores Containing Sulphides. J. T. Carrick, 1, Baines' Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa, and S. Pattison, 128, Cullinan Buildings, Johannesburg. British Patent, 22,166. October 8, 1906.

The inventors claim :—(1.) In the smelting of sulphide ores of the class specified, the process of treating matter with dilute sulphuric acid for the production of sulphuretted hydrogen, and utilising such gas as fuel in subsequent smelting. (2.) The process of treating sulphide ores of the class specified, which consists in smelting the ore to produce a matte, treating such matte with dilute sulphuric acid for the production of sulphuretted hydrogen, utilising such gas as fuel in subsequent smelting, and treating the residues resulting from the treatment of the matte for the recovery of the metals therefrom. (3.) In the smelting of sulphide ores of the class specified, the process of treating matte with dilute sulphuric acid for the production of sulphuretted hydrogen ; utilising such gas as fuel in subsequent smelting ; treating the flue gases, of which the sulphur dioxide contents have been enriched by the sulphuretted hydrogen, for the manufacture of sulphuric acid, digesting the matte with such sulphuric acid for the production of a further quantity of sulphuretted hydrogen, and utilising such gas as fuel in subsequent smelting.

Improvements in the Purification of Sulphuric Acid and the Recovery of By-products Therefrom. J. Raschen, A. E. Wareing, J. H. Shores, and the United Alkali Co., Ltd., all of 30, James Street, Liverpool. British Patent, 23,130. October 18, 1906.

The inventors observe that in the purification of sulphuric acid according to the process described in specification No. 5,151 of 1906, the reduction of arsenic compounds to the arsenious state by means of charcoal is a slow process, unless such a temperature be employed that partial disintegration of the charcoal takes place, and this not only objectionably discolours the sulphuric acid, but also causes blockages, and a further objection is that, if selenium, in any form, be present in the sulphuric acid being purified, the reaction soon ceases owing to selenium depositing on the charcoal. It is the object of the present invention to overcome these objections, whilst effecting the reduction of compounds of arsenic to the arsenious state quantitatively, or practically so. This is effected by subjecting the sulphuric acid to be purified to the combined action of hydrochloric acid and either sulphur or charcoal, a temperature being employed of preferably 100° C. or below, which does not cause disintegration of the charcoal, if that be used, and the reaction is more quickly effected than is the case when charcoal is used alone as hitherto, and moreover, when charcoal is used, the deposition of selenium is prevented, or in main part prevented, so that there is practically no hindrance to continued reduction. If it should be found that any slight deposition of selenium which may take place in prolonged working should render the charcoal less active, such deposit can be readily removed by washing with hydrochloric acid and an oxidising agent, such, for example, as a hypochlorite, or a chlorate. The use of hydrochloric acid and sulphur is only suitable for effecting the improved reduction when selenium is not present in the sulphuric acid, charcoal and hydrochloric acid being used when selenium is present.

Improvements in the Manufacture and Production of Stable Solid Zinc Hydro sulphite. J. Y. Johnson, 47, Lincoln's Inn Fields, London. (Communicated by Badische Anilin and Soda Fabrik, Ludwigshafen A/Rhein.) British Patent, 3,811. February 15 1907.

The patentee observes that in the "Wiener Monatshefte," vol. 20, page 681, is described the production of solid zinc hydrosulphite by reacting with sulphur dioxide on zinc, in the presence of alcohol. The author poured absolute alcohol (which has been distilled several times over sodium) on to granulated zinc and then passed in sulphur dioxide whilst cooling in order to prevent decomposition of the zinc salt formed. The zinc hydrosulphite is thus formed in the form of long needle-like crystals, and is unstable, as, even when in closed vessels, it evolves sulphur dioxide after a few days, whilst in the presence of the atmosphere its reducing power diminishes rapidly, and it is therefore (in common with zinc hydrosulphite which has been prepared in aqueous solution) unsuitable for use in manufactures.

The inventors have discovered that by passing a current of sulphur dioxide into a mixture of zinc dust and alcohol at a temperature above 40° C. (preferably between 60° and 75° C.) zinc hydrosulphite is obtained which possesses excellent keeping properties. In carrying out this invention, either absolute or diluted alcohol can be employed. When diluted alcohol is used, it is preferred to use such a concentration that the zinc hydrosulphite formed remains, as far as possible, undissolved. The zinc hydrosulphite is obtained in almost theoretical yield, and is in the form of large six-sided transparent leaflets, and, after drying, for instance *in vacuo*, is of excellent stability. Either ethyl alcohol, or other alcohols, such for instance as methyl-alcohol, amyl-alcohol, and glycerine, and also other liquids which, either wholly or partly, prevent the zinc hydrosulphite from going into solution can be employed in carrying out the invention.

The following is an example of how the process can be carried into effect. The parts are by weight. Allow 470 parts of sulphur dioxide to react on a mixture of 600 parts of methylated spirits, 250 parts of water and 270 parts of zinc dust, at a temperature of from 60° to 75° C., whilst stirring the mixture. A paste of crystalline zinc hydrosulphite is thereby obtained. Filter this off, and wash it with methylated spirits and dry it *in vacuo* at a temperature of from 60° to 70° C., the zinc hydrosulphite being thus obtained in the condition of dry powder.

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Stock and Share List.

WEEK ENDING JULY 10, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO					
				Thursday, July 4	Friday, July 5.	Saturday, July 6.	Monday, July 8.	Tuesday July 9.	Wednesday, July 10.
120,000	1	1	Bell's Asbestos ... ord.	1¼ 1⅜	1¼ 1⅜	1¼ 1⅜	1¼ 1⅜	1¼ 1⅜	1¼ 1⅛
	Stock	100	Borax Consolidated 4½% deb. stock red.	108 110	109⅛	109½	108 110	108 110	109½
80,000	10	10	Do. ... pref.	11⅛ 11⅜	11 11/16	11 11/16	11⅛ 11⅜	11⅛ 11⅜	11¼
1,356,477	1	1	Bradford Dyers ... ord.	24/3	24/-	24/1½	24/- 24,6	24 3	24/4½
1,50 ,000	1	1	Do. ... 5 % c.p.	20,9	20/10½	21/-	20,9 21/-	20,9	20/9
35,000	10	10	British Dyewood ... ,,	4½ 5	4½ 5	4½ 5	4½ 5	4½ 5	18 - 18,6
600,000	1	1	British Oil and Cake Mills ... ord.	12/- 12,6	12/- 12,6	12,- 12/6	12/- 12 6	12/- 12,6	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	42/- 12 8/16	42/- 12 8/16	42 - 12 8/16	41/- 42/- 12 8/16	41/6 12 3/16	41/3 12 3/16
10,000	10	10	Do. ... 6 % c.p.	5 8/16 5⅝	5 6/16 5⅜	5 6/16 5⅜	5 6/16 5⅜	5 6/16 5⅜	5 6/16 5⅜
1,472,154	1	1	Brunner, Mond, and Co. ... ord.	17 17¼	17⅜ 17⅝	17¼	17 17¼	17 17¼	17 17¼
52 678	10	10	Do. ... 7 % pref.	12½ 13	12¾	12½ 13	12 11/16	12 13/16	12⅝ 12⅞
96,000	5	5	Bryant and May ... c.p.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛
40 000	10	10	Buxton Lime Firms ... ord.	19/-	19/-	19/-	19/-	19/-	19/-
352.500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ,,	24,6 25/-	24,9	24 9 25/-	25/-	24 6 25/-	25/- 25/3
450,000	1	1	Castner-Kellner ... ,,	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
16,000	5	5	Clayton Aniline ... ,,	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
12,000	5	5	Do. ... 6 % c.p.	2½ 3	2½ 3	2¼ 3	2½ 3	2¼ 3	2½ 3
6,000	10	5	Cleveland Salt ... 6 % m.p.	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜
20,000	10	10	Crosfield, J., and Sons ... c.p.	27/- 28/-	27/- 28/-	27/- 28/-	27/- 28/-	27/- 28/-	28/6
85,000	1	1	Fletcher, Russell, and Co. ... ord.	12 3/16 12 6/16	12 3/16 12 6/16	12 1/16 12 5/16	12 3/16 12 6/16	12 3/16 12 6/16	12 3/16 12 6/16
5,000	10	10	Do. ... 6 % c.p.	94¾	95¾	93½	96	96	96¼
£15,223,235	Stock	100	Gas Light and Coke Co. ... ord.	15 16	15 16	15 16	15 16	15 16	15 16
	10	10	India Rubber Co. ... ,,	3⅛ 3⅜ 8	3⅛ 3⅜ 8	2⅞ 3⅛ 8	2⅞ 3⅛ 8	2⅞ 3⅛ 8	3 3¼ 8
	5	5	Lagunas Nitrate ... ,,	11¼ 11¾	11 11½	11 11½	11⅛	11⅛	11¼ 11¾
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	10 8/16 10 11/16	10 8/16 10 11/16	10 7/16 10 12/16	10 8/16 10 11/16	10 8/16 10 11/16	10¾
	5	5	Lautaro Nitrate ... ,,	23,6 24/-	23/6 24/-	23,6 24/-	23/6 24/-	23/3	23/6 24/-
200,000	10	10	Lever Bros. ... 5 % c.p.	33/- 33/3	33/- 33/3	32/6 33/-	32/6 33/-	32/6	32,9
400,000	10	10	Manchester Ship Canal ... ord.	29,9	29/3 29/9	29/3 29,9	29/3 29/9	29/3 29/9	29/9
400,000	10	10	Do. ... per 5 % pref.	2⅞ 3⅛ 1/3	2⅞ 3⅛ 1/6	2⅞ 3⅛ 1/6	2⅞ 3⅛ 1/10½	2⅞ 3⅛ 1/6	60/- 1/6
120,000	1	1	Mardleberg ... ord.	12½ 13 15½ 15 16	12½ 13 15 7/16 15½ 15⅝	12½ 13 15½ 15½	12½ 13 15⅝ 15¾	12½ 13 15⅝ 15 13/16	12½ 13 15 13/16 15 13/16
185,145	1	1	Mason and Barry ... ,,	39/- 30/-	39/- 1⅜ 1½	39/- 1⅜ 1½	39/- 1⅜ 1½	39/- 1⅜ 1½	38,9 30/-
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	12⅞ 13⅛ 33 9 7/16	12⅞ 13⅛ 33 9¼ 9½	12⅜ 12⅝ 33 9 7/16	12⅞ 13⅛ 33 9 7/16	33	12⅞ 13⅛ 32 34 9¼ 9½
110,007	10	10	Nitrate Railways ... ,,	12⅛ 84⅜	12⅛ 84 9/10	12⅛ £6 8/16	12⅛ 87	12⅛ 87	12⅛ 88⅜
228,540	10	10	Nobel Dynamite Trust ... ,,	5	5	5	5	5	5
	10	10	Do. share warrants	2/9 3/3 17/3	2/9 3/3 17/3 17/6	2/9 3/3 17/4½	2/9 3/3 17/3 17/6	2/9 3/3 17/3 17/6	2/9 3/3 17/3
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	£0/9	4 1/16 4 1/8	4 4⅛	4 4⅛	4 4⅛	4 4⅛
	1		Pears, A. and F. ... ,,	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛
70,000	10	10	Pease and Partners ... ,,	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜
37,500	16	16	Price's Patent Candle ... ,,	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼
130,000	1	17/-	Pumpherston Oil, Ltd. ... ,,	120	120	117	119 121	119 121	119 121
10,000	10	10	Do. ... 6 % c.p.	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8⅝ 8⅞	8¾ 8⅞
325,000	5	5	Rio Tinto ... ord.	6⅝ 6⅞	6¾ 7	7 7¼	7 7¼	7 7¼	7⅛
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	83/-	82/3	82/9	82/3	81/9	81/-
239,479	1	14/2	Sadler and Co. ... ,,	11⅜ 11⅝	11⅜ 11⅝	11½ 11⅝	11 11/16 11 11/16	11 31/32	11¾
200,000	4	4	Salt Union ... ,,	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9
100,000	6	6	Do. ... 7 % n.c.p.	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝
£148,000	1	1	Sanitas Co., Ltd. ... ord.	20/6 21/6	20/9 21/3	20/9 21/3	20/9 21/3	21/- 22/-	20/9 21/3
	4	4	San Jorge Nitrate ... ,,	1/- 2/-	1/- 2/-	1/9 2/-	1/- 2/-	1/9 2/-	1/- 2/-
	1	1	Schibaieff Petroleum ... ,,	71/-	70/6	71/-	71/- 71/6	71/6	71/9
£6,250,000	Stock	100	South Metropolitan Gas ...						
45,000	10	10	Steiner, F., and Co. ... 5 % c.p.						
625,000	2	2	Tharsis Sulphur and Copper ... ,,						
289,343	10	10	United Alkali ... ord.						
282.524	10	10	Do. ... 7 % pref.						
80,000	1	1	United Indigo and Chemical ... ord.						
66,665	5	5	Willans and Robinson ... ,,						
210,000	1	1	Woolcombers ... 7 % c.p.						
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.						
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,						

GRAPHITE DEPOSIT IN QUEENSLAND.—It is pointed out that the demand for graphite is at present greater than can be supplied, and that adulterated materials are coming into use. Attention to the existence of an extensive deposit of this valuable material four miles from Netherby railway station, on the North coast line, Queensland, with a railage of only 30 miles to the port of Maryborough, will therefore be welcomed. This deposit holds out every inducement for an extensive and profitable manufacturing industry being opened up in Australia, as hitherto the production of clean graphite in that country has been unknown, although the mineral has been looked for in many places. The Queensland graphite plumbago mine was opened up three years ago. The development of the mine is extensive, showing a good body of the material about 30 ft. thick, with bands of other material through it. The great difficulty was to cut a road down the mountain, which has been done. The material has been shipped to various parts of the world, and is said to have given great satisfaction for all uses.

ARIZONA COPPER COMPANY, LTD.—The profits for the half year, including £11,508. brought forward, amount to £250,687. After paying preference charges the directors have resolved to pay an interim dividend of 2s. 3d., free of income tax, on the preferred and deferred shares, leaving £76,433. to be carried forward.

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NEW YORK PRICES CURRENT.

June 17, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8¾
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7¾
Ammonia, Carbonate, lump	,,	0 7¾
,, Muriate, grey	,,	0 6¼
,, ,, white electrical	,,	0 6¼
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 12½
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 30
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7½
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7¼
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 15
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10¾
Sulphur, Brimstone (best thirds)	per ton	22 0

"MOLYBDOTT."—It is reported from Paris that M. Andre Lancien a student at the School of Medicine, at Rochefort, has discovered a substance which he calls "Molybdott." It is stated that the substance possesses the same properties as radium bromide, and that it costs only about 20f. per gramme.

BANGOR UNIVERSITY COLLEGE.—On Wednesday last, at Bangor, His Majesty the King laid the foundation of a new block of buildings for the University College of North Wales. The number of students in the first year of the College (1884) was 58. The return for 1904-5 is 328.

ANGLO-GERMAN SULPHATE.—According to the report of the Coal Distillation Company of Gelsenkirchen, last year's output was 84,912 tons of coke, 1,239 tons of sulphate of ammonia (against 1,147 tons in 1905), 2,100 tons of tar, 338 tons of pitch, 17 tons of salammoniac, and 2,273 tons of benzols. The company erected to order in England 30 coke-ovens with sulphate and tar recovery plant, and is now putting up a larger set of 60 ovens. No wonder the production of sulphate of ammonia is everywhere increasing by leaps and bounds.

THE BRITISH WESTINGHOUSE COMPANY.—On Tuesday week, Mr. Justice Neville, sitting in the Chancery Division, was asked to sanction the reduction of the capital of the British Westinghouse Electric and Manufacturing Company, Limited. The capital, said Mr. Kirby, was £3,250,000., which was obtained under the impression that the American and other patents taken over by the company would have proved of higher value than they actually did. Mr. Kirby gave details of the proposed reduction, which was £1,375,000. He acknowledged that the actual depreciation amounted to at least £1,380,000. His Lordship sanctioned the reduction applied for, but made a stipulation that the company should for six months to come use the words "and reduced" as an addendum to their designation.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, June 17, 1907.

(Rate of Exchange, $4.87½ = £1.)

Nitrate of soda is steady, but dull on spot, at $2.75. per 100 lbs., and for shipments at $2.55. Sulphate of ammonia is $3.05. per 100 lbs., and is in fair demand. Grey muriate is steady at 6½c. as to make. White muriate inclines to be more plentiful at about the same range. Lump carbonate of ammonia is firm at 7⅞c. to 8c. Lump salammoniac is unchanged at 9½c. Bleaching powders are rather dull, and range from $1.20. to $1.30 per 100 lbs. Alkali is 92½c. for light 58%, in bags, f.o.r. makers' works. Caustic remains $2.07½ for 74%, same conditions. Sulphate of copper has been reduced by the syndicate to 7½c. in round lots, which price is more or less nominal, owing to outside competition. White powdered arsenic is very dull on spot at 7½c. per lb., but firm for futures up to 7½c. Red Saxony arsenic is firm at 7½c. Calcined potash, 80-85%, is unchanged at 3¾c. to 3⅞c. per lb., and hydrated tends upwards at 4¼c. Chlorates are maintained at the syndicate price previously reported. Combination between all the makers of bichromates results in an advance of price of soda to 7½c. per lb., and potash to 8⅝c per lb. Prussiates are quite dull, and soda may now be had a 10c. per lb., with potash at 16c. Oxalic acid is slow at 8¾c. to 9c

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with values given at 9d. for 90's, and 9½d. for 50-90's. Crude tar, 16s. to 20s. per ton, Thames; 1¼d. to 1⅜d. per gal., delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, London, 26s. to 26s. 6d., f.o.b.; Gas Company, 30s. 6d.; East Coast, 25s. to 25s. 6d.; West Coast, 23s. 6d. to 24s. 6d.; next year, 2s. 6d. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 11½d. to 1s.; pure, 1s. 8½d. to 1s. 9d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5½d.; 60%, 1s. 7½d. to 1s. 7⅝d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5¾d.; 34-35, 5½d. Cresylic, 95%, 1s. 1½d. to 1s. 2d. Anthracene, 40 to 45 per cent A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia steady but quiet. Nearest values are: Beckton, £12. 2s. 6d. to £12. 5s.; Beckton terms, £11. 13s. 9d.; London (outside makes), £11. 17s. 6d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d. to £11. 18s. 9d.; Manchester, £11. 15s. to £11. 16s. 3d.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool ordinary, 11s., and refined, 11s. 3d. Official quotations:—Cargoes, off coast or due, 10s. 11½d.; ditto for prompt shipment, 11s. 3d.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £98. to £98. 5s. cash, and £90. 5s. to £90. 10s. three months. Tin: G.M. quality, £188. 10s. to £189. cash, and £180. 10s. to £181. three months; English, £190. Lead: soft foreign, July delivery, £21. 15s. to £22.; July shipment, £21. 7s. 6d.; September, £20. 12s. 6d.; English, £22. to £22. 5s. Spelter, ordinary brands, July, £24. 7s. 6d., ex ship; hard, £20. 10s. f.o.b. Antimony, £43. to £48.; ore, £10. to £10. 10s. Bismuth, 6s. 6d. Quicksilver, £6.; seconds, £6. 10s. Nickel, £175. to £185. Pig-iron closing prices:—Standard, 56s. 7½d. cash, and 56s. 10d. one month; Cleveland, 56s. 10½d. cash, and 57s. 1d. one month.

FERTILISER MATERIALS.

FRIDAY.

Although the market for manure material is quiet, prices are well maintained.

Mineral phosphates remain without change, quotations being firm for all grades in all positions.

Shippers of East Indian bone meal still maintain strong views, requiring, for shipment, £5. 2s. 6d. per ton, nett, c.i.f. terms, Liverpool. On spot £5. 7s. 6d. to £5. 12s. 6d. per ton is asked, according to quality, ex store.

Nitrate of soda is rather quiet, but quotations are steady at 11s. per cwt. for 95% and 11s. 3d. per cwt. for refined quality.

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HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—The value of all articles of interest to this market has been declining throughout the week—cottonseed oil has declined by about 30s. ton, and linseed oil by about £2.; the market for linseed has been slow and easier, and cottonseed steady but quiet. Amongst the principal imports here to date as against the same period a year ago have been :—Wheat, 2,035,509 qrs. against 2,092,110 qrs. Flour, 88,846 cwts. against 199,033 cwts.; linseed 393,820 qrs., against 282,258 qrs.; rapeseed 40,634 qrs., against 40,485 qrs.; cottonseed, Egyptian, 119,891 tons; other kinds, 89,989 tons against 100,277 tons, and 72,816 tons; oilcake 16,996 tons, against 24,540 tons; hemp 74,926 cwts., against 99,892 cwts.; olive oil 3,082 tuns, against 2,537 tuns; tar 2,041 brls., against 1,680 brls. Amongst the weekly imports are laid 4,012 cwts.; margarine 2,846 cwts.; sugar 17,134 cwts.; hides 945 cwts.; hemp 3,077 cwts.; colours 2,084 pkgs.; wool 260,960 lbs.; oilcake 60 tons; Exports :—Oil 9,842 cwts.; colours 3,194 pkgs.; chemicals 1,986 pkgs. Linseed is quoted here for La Plata spot 42s. per q., ron passage 42s.; June July sold at 42s. 3d. New crop, December-January, 41s. 6d; linseed oil naked spot, 22s. 10½d.; July-August, 22s. 9d.; September-December, 21s. 10½d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week: 1 ton Denmark, 1 Egypt, 7 France, 6 Germany, 11 India, 2 Norway, total 28 tons. Cottonseed quiet, spot £7. 16s. 3d.; October, £7. 3s. 9d.; November-January, £7.; Bombay, for parcels afloat, £5. 15s.; June-July, £5. 16s. 3d.; July-August, £5. 17s.; December-January, £5. 15s.; refined cottonseed oil lower, 28s. 1½d., spot naked; July-August, 28s. 1½d.; September-October, 27s. 2d.; November-April, 23s.; casks and barrels, £1. to £1. 10s. pet ton extra. Exports for the week: 81 tons Germany, 3 Holland, 1 Norway, total 85 tons; Turpentine weak, with business transacted below the official quotations, spot, 42s. 6d.; July-December, 43s. 6d.; January-April, 45s.; Russian in sympathy is weaker and lower business done at 21s. 6d. spot. Rosins from 11s., according to grade; olive oil firm, £34.; castor oil, unchanged; cod oil, £16. to £19.

CAKES.—Steady at a reduction all round of about 2s. 6d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil quiet, sales including Grand Bassa and Dixcove on spot, £27. 10s.; hard oils, July, £28. 10s., afloat, £29.; Lagos on spot, £30. 5s.; June-July, £31., July, £30. 15s. per ton; Old Calabar, July, £30. 7s. 6d., July-August, £29. 5s.; Benin, on spot, £29. 5s.; half Jack and Grand Bassam, £29.; Saltpond, July, £28. 7s. 6d.; Accra, spot, £28. 10s., July-August, £28. 12s. 6d., early arrival, £28. 15s. Olive oil steady at £37. to £38. 10s. per tun, c.i.f., for Levant, and £37. c. and f. for Corfu. Linseed oil dull at 26s. 9d. to 27s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil steady, at 31s. 6d. per cwt. for Liverpool refined in export barrels. Rosin well held, at 11s. 9d. for common; 11s. 10½d. for D; 11s. 10½d. for E; 12s. for F; 12s. 1½d. for G; 12s. 3d. for H; 12s. 6d. for I; 13s. 6d. for K; 14s. 3d. for M; 15s. 6d. for N; 16s. for WG; 16s. 6d. per cwt. for WW. Tallow dull at 31s. to 34s. for North American beef; South American beef, 35s., c.i.f., for June shipment, and 34s. 9d. to 34s. 10½d. for July-August; South American mutton, 34s. 4½d., c.i.f.; Petroleum quiet at 6¼d. for Russian and Roumanian, and 6¾d. to 7¾d. for American refined oils. Petroleum spirit in fair request at 1s. 0¼d. to 1s. 3d. for American deodorised on spot. Turpentine unchanged at 43s. 6d. for spot parcels.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes are quiet at 35s. Pearl ash, 40s. per cwt. Bark in limited supply; a parcel of quillai sold in store at £2. to £20. per ton. Berries, very quiet, with Persian selling at 55s. per cwt. Logwood and fustic quietly steady. Cutch quiet, with values unchanged. Gum arabic, quiet, but in better demand at 23s. 6d. for Niger; Ghatti, No. 1. 29s. 6d. to 30s.; No. 2, 18s. c.i.f.; Senegal, 31s. f.o.b.; soft white, 45s. to 50s.; yellow, 37s. 6d. to 40s.; Trieste, 75s. Beeswax: parcels have sold at auction at £7. 10s. to £7. 11s. 3d. for Chilian; £7. for Sierra Leone; and £7. 17s. 6d. per cwt. for Peruvian. Copal: A parcel of Gold Coast copal sold in store at 42s. 6d. to 52s. per cwt.; a parcel of Brazilian sold at 55s. to 56s. per cwt. Castor oil, steady at 3 9/16d. for good seconds Calcutta on spot, and 3⅝d. for July-August shipment; first pressure French, 3⅝d. to 3¾d.; second pressure, 3 9/16d. Gambier: block quiet, at 18s. 3d. to 18s. 6d. on spot; and 19s. to 19s. 6d. for May-June, June-July, and July-August shipment. Cubes, 28s. to 28s. 6d. on spot, and 27s. 6d. for July-August shipment. Shellac, quiet at 210s. for fair free TN Orange on spot, 205s. for August, and 196s. for October shipment, June, 195s., and July 192s., c.i.f. AC Garnet, 207s. 6d. to 210s.; good and fine orange, 225s. to 240s. GAL. 187s. 6d. to 190s. Glucose: American liquid, 43%, 10s. 6d. on spot, and 8s. for June shipment; chips, 80%, 8s. 3d.; 70%, 8s. c.i.f. American powdered starch, 10s. on spot, and 9s. 6d. c.i.f. for shipment; pearl, 9s. 4½d. on spot, and 9s. c.i.f. for shipment. Cream of tartar: 98% foreign powder, 82s.; 95%, 80s. Tartaric acid: English on spot, 11¾d.; foreign, 11¼d. Citric acid: English, 2s. 0½d.; foreign, 1s. 11¼d. to 1s. 11½d.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY

To-day is the beginning of the local industrial holidays, when the works of Glasgow and district shut down for a period of from ten days to three weeks, according to the varying demands upon each. Business also comes in for some interruption, but only for two or three days at the most, offices reopening on Tuesday the 16th inst. The market in chemicals has been quieter, but prices generally keep firm, though sulphate of copper is easier. Borax and boracic acid have been advanced 20s. per ton. Sulphate of ammonia has been in no great movement for spot, and quite a blank in forward, but quotations fully hold their own at, say, £12. to £12. 1s. 3d. for prompt, f.o.b. Leith. Creosote (coal-tar and blast-furnace) remains at 2¼d. Glasgow (naked), but the feeling is strong. Paraffins, all unchanged and steady.

Chief prices current are :—Alum (in lump) £5. 5s. to £6. nett, ex quay Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s. nett, Liverpool; bicarbonate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b., Glasgow; bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16.; and boracic acid, £25., nett, Glasgow; caustic soda, white, 76%, £10. 10s.; 70-72%, £9. 15s.; 60-62%, £8. 15s.; and cream, 60-62%, £8. 15s., all nett, Liverpool; chlorate of potash, 3¼d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace) 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 1¾d. to 2¼d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6½d.; ordinary sorts, 6d. and 5¼d., open market prices for spot business at Glasgow and other big centres; ditto (lubricating) 805°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; and 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42., and £40. less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s. nett Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £31. 5s. to £31. 7s. 6d., less 5% Liverpool, prompt.

TYNE CHEMICAL REPORT.

Market steady with a fair demand. Caustic soda is quoted at £9. 15s. for 70% and £10. 10s. per ton for 76-77%. Bleaching powder steady at £5. to £5. 5s. per ton for prompt. Soda crystals locally firm at £2. 17s. 6d. to £3. 2s. 6d. per ton gross weights. Sulphur steady at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76- 7%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett, do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6 l. per ton; nett; hyposulphite of so la, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett;

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hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market firm with a good demand for export. Coke is also strong, and in request for both furnace and foundry qualities. To-day's quotations:—Best Northumbrian steam 14s. 6d. to 14s. 9d. per ton; second qualities, 14s. to 14s. 3d. per ton; Northumbrian small coals, 10s. to 10s. 3d. per ton; best gas coals, 14s. 6d. to 15s. per ton; do. seconds, 13s. to 13s. 6d. per ton; Durham bunkers, 12s. 6d. to 13s. per ton; coking coals, 13s. 6d. to 14s. per ton; household coals, 15s. to 17s. per ton; foundry coke, 24s. per ton.

New Companies.

Anglo-Saxon Petroleum Co., Ltd.—Capital £4,000,000., in £10. shares (240,000 "A" and 160,000 "B") This company has been formed to carry on the business of producers, refiners, storers, transporters, suppliers, sellers and distributers of petroleum and other oils and the products thereof, etc. No initial public issue. The number of directors is not to be less than five nor more than six. The registered holders of the A shares for the time being issued may from time to time appoint three directors, and the registered holders of the B shares for the time being issued may appoint two. The holders of the "A" shares may, subject to the consent of the holders of the "B" shares, appoint one additional director, who must be approved by the "B" shareholders at the time of his appointment. The "A" and "B" shares rank pari passu as regards capital and dividends. The directors may not, without the sanction of an extraordinary resolution, borrow in excess of 75% of the amount of the nominal capital.

Overseas Navigation Co., Ltd.—Capital, £15,000, in £10. shares. This company has been formed to adopt two agreements with J. Herron and I. Weaver, of Liverpool, trading as John Herron and Co., and to carry on the business of shipowners. No initial public issue. John Herron and Co. are the managers.

Celluloid Ltd.—Capital £37,500., in 30,000 preference shares of £1. each, and 150,000 ordinary shares of 1s. each. This company has been formed to adopt an agreement with J. Wolf, C. Bernadac and J. A. de Laugardiere, and to carry on the business of manufacturers of and dealers in celluloid and imitation ivory, bone, coral, and similar substances, etc. No initial public issue. The subscribers are to appoint the first directors; qualification £100.

Oxychlorides (1907), Ltd.—Capital £150,000, in £1. shares. This company has been formed to adopt an agreement with Oxychlorides, Ltd., of Winchester House, E.C., for the acquisition of certain properties and rights, and to carry on the business of miners, smelters, chemists, workers of any processes for the production, reduction, and making merchantable of minerals, metals and metallics products, etc. Minimum cash subscription 10% of the shares offered to the public. The first directors are to be appointed by the subscribers; qualification £500.; remuneration £200. per annum for the chairman and £150. each for the others, with 5% of the surplus net profits after 10% has been paid on the shares, divided (total remuneration not to exceed £5,000. in any year).

Safety Non-Explosive Reservoir Co., Ltd.—Capital £50,000. in £1. shares. This company has been formed to adopt an agreement with Cairn's Patents, Ltd., and C. B. Charlesworth, and to carry on the business of manufacturers of and dealers in articles and machines under the said patents, ironfounders, mechanical and electrical engineers, hardwaremen, etc. No initial public issue. The first directors are to be appointed by the subscribers; remuneration £100. each per annum.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls.		Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	or Glns.	Gallons.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending June 29.

Acetic Acid—

Holland,	17 cks.		Muller
,,	25blns.,2pks.		& Co.
,,	6	36	Greeff & Co.
Norway,		32	Weber, Smith & Hoare

Acetone—

France,	£360	P. F. Knowlden
U.S.A.,	35	L. & I. D. Jt. Co.
Germany,	416	F. A. Tye

Albumen—

Germany,	£120	Prop. Hay's Wf.
U.S.A.,	33	Armour & Co.

Alcoholic (Methylic)—

U.S.A.,	4,700 g.	P. F. Knowlden
Germany,	3,873	F. A. Tye

Alumina (Anhydrous)—

Holland,	£1,800	E. White

Alumina Sulphate—

Holland,	£483	Ohlenschlager Bros.

Ammonia—

U.S.A.,	£80	Simpson, Spence & Co.

Antimony Ore—

N. Zealand,	3 t.	Neale & Wilkinson
N.S.W.,	52	Spence & Co.
E. Turkey,	12	Quirk, Barton & Co.

Antimony (Regulus)—

Germany,	1 t.	Craven & Co.
,,	1	M. Benscher

Argols—

Spain,	43 cks.		Thames S. T. & L. Co.
France,	38		Jacob & Sons
Italy,	35	3,168 bgs.	,,

Asbestos—

Canada,	26 t.	10 c.	Deering & Robottom
Germany,	3		Craven & Co.
Italy,	3	10	Lunham & Moore

Barytes—

Germany,		400 bgs.	G. G. Francis
Belgium,		100	Felton & Crepin
,,	120 cks.		Harrison & Co.
Holland,	65	225	Felton & Crepin
,,		250	Locke, Lancaster & Co.
,,	a qnty.		Johnson & Sons
,,	10 cks.		F. T. H. Nye
,,	93		Z. Cartwright

Basic Slag—

Belgium,	345 t.	Ang. Cont. Guano Wks.

Bleaching Powder—

Germany,	17 t.	Steel & Co.

Bog Ore—

Belgium,	203 t.	Mark & Co.

Bone Meal—

E. Indies,	200 t.	Hunter, Tomer & Co.

Bones—

Arg. Rep.,	19 t.	Nelson & Sons

Calcium Carbide—

Sweden,	13 t.	M. Dk. Co.
Norway,	6	18 c. ,,
France,	40	J. Harrison

Camphor—

H. Kong,	100 cs.	Smith & Sons
China,	100	L. & I. D. Jt. Co.
France,	425	Warner & Co.
China,	10 pks.	,,
,,	200 cs.	Beresford & Co.
,,	100	Leach & Co.
China,	100	Prop. Hay's Wf.

Caoutchouc—

Straits,	1 t.	13 c.	R. & J. Henderson
,,		18	Hattenback & Co.
,,	10	18	L. & I. D. Jt. Co.
,,		4	Figgis & Co.
,,	1		Prop. Hay's Wf.
,,		14	Props. Butler's Wf.
France,	2	1	Baxter, Hoare & Co.
Queensland,		4	Props. Bull Wf.
U.S.A.,	1	3	Humphrey & Co.
Ceylon,		1	Figgis & Co.
,,		5	Evans & Co.
,,		4	Rowe, White & Co.
,,	1	2	Prop. Hay's Wf.
,,		3	L. & I. D. Jt. Co.
,,		10	Crabbe & Co
,,		1	Smith & Sons

Caoutchouc—

E. Indies,	3 t.	2 c.	Smith & Sons
Germany,	1	10	Symington & Co.
,,		1	Prop. Hay's Wf.
P. E. Africa,		7	J. Owen
Belgium,		6	Stahlschmidt & Co.
,,		6	Hecht, Leves & Kahr
Portugal,	5		Lewis & Peat
Holland,	1	19	L. & I. D. Jt. Co.
Madagascar,	1	10	Figgis & Co.
Natal,		6	Rennie, Son & Co.

Carbon Black—

U.S.A.,	200 brls.	Binney,
,,	100 cs.	Smith & Co.

Casein—

Canada,	£10	Langstaff, Ehrenberg & Co.

Castor Oil—

Belgium,	56 brls.		Fuerst Bros.
France,	30		Weber, Smith & Hoare
,,	5cks. 5 cs.		L. & I. D. Jt. Co.
,,		12	Lucas & Spencer's Wf.

Caustic Potash—

Belgium,	16 dms.		Petri Bros.
France,	30		G. H. Chippingdale
Germany,	25		Steel & Co.

Chalk (French)—

France,	£30	Harrison & Co.
Italy,	45	,,
France,	11	Symons & Co.
,,	7	J. Harrison

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Chemicals (*otherwise undescribed*)
Germany, £848 A. & M. Zimmermann
,, 719 T. H. Lee
,, 220 Jones & Co.
,, 20 R. Herrmann
,, 21 Prop. Hay's Wf.
,, 459 Argo S.S. Co.
,, 27 L. & I. D. Jt. Co.
,, 883 Greeff & Co.
Holland, 20 Barber & Co.
,, 226 W. Smith
,, 364 Muller & Co.
,, 21 Van Dam & Co.
,, 80 A. & M. Zimmermann
Belgium, 10 Butler & Crispe
,, 12 J. Harrison
,, 12 T. H. Lee
U.S.A., 6 Meadows & Co.
,, 1,847 Greeff & Co.
Canada, 8 Langstaff, Ehrenberg & Co.
France, 8 Symons & Co.
,, 72 Pickfords, Ld.

Cinchona Bark—
Holland, 2 chts. T. Whiffen

Citrate of Lime—
Italy, £800 Jacob & Sons
B.W.I., 270 Follows, Morton & Co.

Citric Acid—
France, 4 cks. B. & F. Wf. Co.
Germany, 4 kgs. L. & I. D. Jt. Co.

Coal Products—
Aniline
Belgium, 5cks.12 pks. J. Cockerill Line
Germany, 6 20 L. & I. D. Jt. Co.
,, 6 2 cs. Leach & Co.
Belgium, 3 pks. Friend & Co
Carbolic Acid
Holland, 25 cks. J. Owen
Pitch
Germany, 33 brls. L. & I. D. Jt. Co.
N. Russia, 25 bxs. Taylor Bros.

Cobalt Ore—
N.S.W., 104 t. Litchfield & Soundy

Copper Ore—
Queensland, 20 t. Cook & Co.

Copper Sulphate—
Germany, £65 Charles & Fox

Cream of Tartar—
France, 6 cks. Vokins & Co.
Holland, 20 Kirkpatrick, Barr & Co.
,, 57 A. & M. Zimmermann
France, 8 20 pks. Devon & Co.
Spain, 2 B. & F. Wf. Co.
Holland, 6 T. H. Lee

Dyestuffs
Chestnut Extract
France, 50 cks. Humphrey, Percival & Co.
Cochineal
Canary Is., 13 bgs. L. & I. D. Jt. Co.
France, 1 Sperling & Williams
Canary Is., 9 ,,
Cutch
Holland, 1,597 bgs. Baxter, Hoare & Co.
Divi Divi
E. Indies, 303 bgs. Flack, Chandler & Co.
,, 50 Culverwell, Brooks & Co.
Dyewood
Belgium, 5 cks. Humphreys, Percival & Co.
Gambier
Straits, 523 lbs. Sargant & Sons
,, 748 pks.
,, 255 bls. Pope & Co.
Indigo
E. Indies, 13 chts. Arbuthnot, Latham & Co.
,, 3 L. & I. D. Jt. Co.
Logwood
U.S.A., 1 t. Pronk, Davis & Co.
Myrabolans
E. Indies, 68 pkts. Gray, Dawes & Co.
,, 2,484 332 bgs. Winser & Co.
,, 683 bgs. G. R. Haller

Dyestuffs—
Myrabolans
E. Indies, 342 bls. France, Fenwick & Co.
Myrabolan Extract
E. Indies, 426 bgs. France, Fenwick & Co.
Sumac
Italy, 50 bgs. Drummond & Co.
France, 26 Symons & Co.
Italy, 500 J. Kitchin
,, 500 Fischer, King & Co.
Tanners' Bark
C. Colony, 100 t. Page, Son & East
Natal, 425 Rennie, Son & Co.
,, 26 Sollas & Sons
Tannin Extract
Straits, 500 bgs. Cook & Co.
Turmeric
E. Indies, 96 bgs. Props. Bull Wf.
,, 508 Erith & Dartford L. Co.
Vanilla
Ceylon, 19 cs. L. & I. D. Jt. Co.
France, 6 Toupp & Sons

Dextrine—
Holland, 10 t. Barber & Co.

Farina—
Holland, 7 t. 16 c. Van Dam & Co.
,, 10 L. & I. D. Jt. Co.
,, 45 Barber & Co.

Flux Skimmings—
N.S.W., 13 t. Cook & Co.

Gas Oil—
U.S.A., 612,000 g. Shell Tran. & Trading Co.

Gelatine—
Holland, £13 Van Dam & Co.
Belgium, 67 J. Cockerill Line
Germany, 415 L. & I. D. Jt. Co.
France, 95 Mory & Co.

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glucose—
U.S.A., 17 t. 8 c. Haller
,, 60 brls. & Co.
,, 137 t. 16
Holland, 2

Glue—
Germany, £41 Watt & Son
,, 150 Argo S.S. Co.
,, 15 L. & I. D. Jt. Co.
Holland, 605 Muller & Co.
,, 11 T. H. Lee
,, 305 Hernu, Peron & Co.
,, 182 Van Dam & Co.
Belgium, 38 J. Harrison
,, 388 Duche & Sons
,, 12 J. & H. Grant
,, 12 J. Cockerill Line
U.S.A., 282 Anglo-American Oil Co.
,, 68 L. & I. D. Jt. Co.
France, 31 Murray & Co.
,, 59 Symons & Co.
,, 14 Mory & Co.
A. Hung., 246 Steinhoff, Sons & Co.
N. Russia, 6 Venesta, Ld.
,, 230 J. Greig

Glue Stock—
Belgium, 6 t. Thomas & Son
N. Russia, 24 Elkan & Co.
Ceylon, 14 c. Culverwell, Brooks & Co.
S. Aust., 17c. B. & F. Wf. Co.
N.S.W., 30 Anning & Cobb

Glycerine—
N. Zealand, £130 Hill & Sons
Holland, 265 Barber & Co.

Gold Concentrates—
N. Zealand, £490 Vivian, Younger & Co.

Gold Ore—
N. Zealand, a qty. Enthoven & Co.

Gutta Percha—
Germany, 2 c. Argo S.S. Co.
Straits, 38 t. 15 c. Jewesbury & Co.

Kainit—
Germany, 50 t. Berk & Co.

Ketone—
Germany, £333 F. A. Tye

Iodine Salts—
Germany, £50 Prop. Hay's Wf.

Lactic Acid—
Germany, 4 cks. T. H. Lee

Lead Itrate—
France, £68 W. J. Crook

Lead Ore—
China, 26 t. J. Owen
Natal, 10 Rennie, Son & Co.

Linseed Oil—
Holland, 57 brls. Knowles, Spencer & Co.
,, 15 cks. Randall Bros.

Lithopone—
Germany, 40 cks. Litchfield & Soundy
,, 23 Dixon & Heydon
Belgium, 20 Lyon & Co.
Germany, 4 L. & I. D. Jt. Co.
Belgium, 12 Felton & Crepin

Magnesia—
Germany, £130 L. & I. D. Jt. Co.

Magnesite—
Holland, £9 Barber & Co.
,, 1,075 Vokins & Co.

Manganese Ore—
Germany, 2 t. Gilbert & Co.

Manganesite—
Germany, £64 Argo S.S. Co.

Manure—
Germany, 4 t. Baeltz & Co.

Mineral White—
France, £81 Blackwell, Sons & Co.
A. Hung., 72 Harrison & Co.

Molasses—
Cuba, 4,150 t. Ohlenschlager Bros.
B. W. Indies, 1 L. & I. D. Jt. Co.
,, 4 hhds. ,,
U.S.A., 115 t. 9 c.

Olive Oil—
Italy, 126 gals. Props. Middleton's Wf.
,, 100 Green, Richard & Co.
France, 130 L. & I. D. Jt. Co.
,, 10 t. Crosse & Blackwell
,, 5 126 Knill & Co.
Belgium, 34 J. Cockerill Line
Italy, 85 E. Ciano
France, 60 B. & F. Wf. Co.
,, 50 Latham & Co.
,, 20 Trapp & Sons
,, 1 98 Gill & Duffus
,, 2 126 A. & N. Co-op. Soc.

Paraffin Scale
U.S.A., 59 t. 1 c. Hill & Sons
,, 165 12 Anglo-Am. Oil Co.

Paraffin Wax—
Germany, 19 t. 14 c. Hill & Sons
,, 2 17 T. H. Lee
,, 1 2 Prop. Hay's Wf.
Holland, 3 Wilkins, Campbell & Co.
E. Indies, 9 13 Cayzer, Irvine & Co.
U.S.A., 11 5 Hill & Sons

Phenacetin—
Germany, £41 T. H. Lee

Phosphate of Lime—
France, 145 t. Hunter, Lorner & Co.
Belgium, 220 Lawes C. M. Co.

Plumbago—
Germany, 70 cs. E. & T. Pink
,, 3 cks. Argo S.S. Co.
Ceylon, 501 brls. Thredder, Son & Co.
,, 196 cks. Marshall
,, 631 bgs. & French
,, 131 brls. G. R. Haller

Potash—
U.S.A., £60 Weber, Smith & Hoare

Potassium Carbonate—
Germany, 63 cks. Steel & Co.
Canada, 6 brls. Charles & Fox
France, 4 cks. Horne & Co.

Potassium Chlorate—
Holland, 20 cks. Van Dam & Co.
France, 145 kgs. Murray & Co.
Sweden, 100 Boor & Co.
Holland, 10 Sparks, White & Co.

Potassium Cyanide—
Germany, £261 Pickfords, Ld.

Potassium Permanganate—
Germany, 20 brls. Dormer, Dunn & Co.
,, 26 cks. H. Lorenz
,, 46 L. & I. D. Jt. Co.
,, 46 Craven & Co.

Potassium Prussiate—
Germany, 7 cks. J. Owen

Potassium Silicate—
Holland, £59 Spies, Bros. & Co.

Pyrites (Copper)—
Spain, 2,923 t. Anderson, Anderson & Co.

Pyrogallic Acid—
Holland, 5 cs. Greeff & Co.

Red Lead—
Holland, 40 cks. P. Jantzen
,, 88 F. T. H. Nye
,, 16 Felton & Crepin
Germany, 36 Barber & Co.
Norway, 5 cs. W. Fenn

Ripolin—
Holland, 40 pks. Phillipps
,, 15 dms. & Graves
,, 79 cs.11 cans ,,

Rosin—
France, 50 brls. Watt & Son
Holland, 3 Muller & Co.

Salicylic Acid—
France, £40 Mory & Co.

Saltpetre—
Germany, 35 t. 16 c. Hecker & Co.

Saltpetre Salt (Waste)—
Germany, 205 t. Berk & Co.

Silver Concentrate—
N. Zealand, £465 Vivian, Younger & Co.

Silver Ore—
U.S.A., 15 t. Ackerley & Son
N. Zealand, a qty. Enthoven & Sons

Soap—
U.S.A., £38 Rosenburg, Loewe & Co.
,, 516 Mertens & Co.
,, 310 W. Davies
,, 142 Armour & Co.
,, 250 Butler & Crispe
,, 2,883 Props. Dowgate Wf.
,, 42 Field & Co.
Germany, 95 L. & I. D. Jt. Co.
Belgium, 48 Thomas & Son
France, 16 Beresford & Co.
,, 18 Mory & Co.
,, 160 Lucas & Spencer's Wf.
,, 439 Vokins & Co.
Holland, 8 Muller & Co.
U.S.A., 780 Lunham & Moore

Soap Powder—
Holland, £24 Muller & Co.
U.S.A., 150 Gospo, Ld.

Soda—
Italy, 7 c. Knill & Co.
Germany, 11 T. H. Lee
,, 7 A. & M. Zimmermann
Holland, 5 t. Steel & Co.
,, 11 10 Muller & Co.

Soda Crystals—
Holland, 12 t. Muller & Co.
,, 45 Windmuller& Co.

Sodium Acetate—
France, 5 t. J. Harrison

Sodium Bicarbonate—
Germany, 40 t. Finkler & Co.

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Starch—
Holland, 10 t. Pickfords, Ld.
,, 2 Kay & Mayo
,, 17 4 c. Muller & Co.
,, 2 6 Phillipps & Graves
,, 28 Little & Johnson
,, 15 5 Bennett's Haulage Co.
Belgium, 2 4 Leach & Co.
,, 1 12 J. Harrison
,, 11 8 E. & T. Pink
France, 5 C. E. Wood
,, 7 A. C. Hitchcock
Canada, 15 12 Roland & Gwynn

Stearine—
Holland, 13 bls. Muller & Co.
France, 18 bgs. Symons & Co.
Belgium, 13 Reyerstein & Co.

Sulphur—
Italy, 8 t. Thames S. T. & L. Co.
,, 9 19 c. Davis & Soper
,, 1 J. W. Dooley

Sulphur Chloride—
Germany, £62 Typke & King

Sulphuric Acid—
Belgium, 200 t. Anglo-Cont. Guano Wks.

Talc—
Italy, £50 Lunham & Moore
Aust. Hung., 29 United S. Co.

Tallow—
N.S.W., 47 cks. Phillipps & Graves
,, 73 A. J. Humphery
,, 106 Bessler, Waechter & Co.
,, 37 Anning & Cobb
,, 26 J. Greig
N. Zealand, 106 Leach & Co.
,, 100 Phillipps & Graves
,, 249 L. & I. D. Jt. Co.
,, 6 Morrison & Co.
,, 64 Anning & Cobb
,, 14 J. Graves
,, 30 Thornett & Fehr
,, 141 Dalgety & Co.
,, 15 N.Z. L. & M.A.Co.
,, 215 L. & I. D. Jt. Co.
,, 48 Bk. of N.Z.
,, 400 J. Owen
,, 35 Goad, Rigg & Co.
Queensland, 54 Lucas & Spencer's Wf.
,, 34 E. L. Annoot
,, 105 J. Greig
,, 176 Goad, Rigg & Co.
Arg. Rep., 111 Bessler, Waechter & Co.
,, 222 Thornett & Fehr
,, 111 Phillipps & Graves
U.S.A., 495 Leete, Sons & Co.

Tannic Acid—
Holland, 3 cs. Muller & Co.
,, 1 Greeff & Co.

Tantalite Ore—
Straits, 2 t. Dalgety & Co.

Tartar—
Italy, £570 Cook & Co.

Tartaric Acid—
Italy, 20 cks. Finkler & Co.
Holland, 26 Kirkpatrick, Barr & Co.
Italy, 4 B. & F. Wf. Co.

Thorium Nitrate—
Germany, £1,136 Pickfords, Ld.

Tin Ashes—
Belgium, 9 c. J. Cockerill Line

Tin Ore—
Spain, 6 t. Props. Bull Wf.
,, 7 Hoare, Wilson & Co.

Turpentine—
N. Russia, 166 brls. Deustsche Bank (Berlin)
,, 50 Mordaunt Bros.
,, 158 London Oil Storage Co.
France, 200 Watt & Son

Ultramarine—
Germany, 1 ck. 10 cs. Argo S.S. Co.
Holland, 1 3 Muller & Co.
,, 1 Lewis, Berger & Sons

Ultramarine—
Belgium, 13 cks. Zetterquist & Harvey
,, 3 Berger & Sons
,, 8 Felton & Crepin

Wax—
Germany, 123 pks. T. H. Lee
,, 6 P. J. Johnson
,, 20 Prop. Hay's Wf.
,, 16 L. & I. D. Jt. Co.
,, 40 Craven & Co.
Belgium, 18 Major & Field
P. E. Africa, 67 J. Owen
E. Indies, 4 ,,
U.S.A., 30 L. & I. D. Jt. Co.
,, 54 Beresford & Co.
Madagascar, 166 Figgis & Co.
France, 3 B. & F. Wf. Co.
,, 3 Bennett S.S. Co.
,, 40 Kiver & Co.
Morocco, 68 Forwood, Bros. & Co.
Natal, 67 Rennie, Son & Co.
Holland, 30 Muller & Co.

White Lead—
Germany, 43 cks. Randall Brs.
Holland, 58 Spies, Bros. & Co.
Germany, 52 ,,
Belgium, 46 Farmiloe & Sons
,, 15 F. T. H. Nye
,, 46 brls. Lyon & Co.
France, 70 Watt & Son

Wolfram Ore—
Spain, 25 t. Hoare, Wilson & Co.
Straits, 3 Major & Field

Vanillin—
Germany, £170 L. & I. D. Jt. Co.

Verdigris—
Holland, 1 ck. Muller & Co.
France, 2 H. Lorenz

Zinc Ore—
N.S.W., 37 t. Cook & Co.

Zinc Oxide—
Holland, 20 brls. Muller & Co.
,, 160 M. Ashby
,, 150 cks. F. T. H. Nye
U.S.A., 1,200 brls. M. Ashby
Germany, 1 ck. Barber & Co.
,, 200 cs. Elkan & Co.

Zinc Residues—
Sweden, 19 t. A. Cartledge

Zinc White—
Holland, 125 cks. Spies, Bros. & Co.
Germany, 25 Weber, Smith & Hoare
Belgium, 5 Bessler, Waechter & Co.

LIVERPOOL.

Week ending June 27.

Alkali—
Hamburg, 7 cks.

Ammonium Carbonate—
Montreal, 13 pks. Chance & Hunt

Antimony Ore—
Antofagasta, 71 bgs. Widenmann Brouher
,, 135 Huth & Co.
,, 1,316 Barber & Co.

Argols—
Oporto, 35 cks.

Arsenic—
Barcelona, 3 brls.
Oporto, 40 cks.

Asbestos—
Genoa, 42 bgs.
Hamburg, 90

Barium Sulphate—
Antwerp, 69 cks.

Barytes—
Rotterdam, 130 cks.

Beeswax—
Conakry, 23 pks. Cie Trans. Occul
Bathurst, 13 Cros & Co.
Conakry, 3 Pickering & Berthoud

Bones—
Las Palmas, 149 bgs. Clayton, Jones & Co.
Ceara, 22 t.

Bog Ore—
Antwerp, a qty.

Borate of Lime—
Antofagasta, 367 bgs. Borax Consolidated, Ld.

Castor Oil—
Genoa, 30 cs.

Chalk (French)—
Malaga, 100 bgs.

Chemicals (*otherwise undescribed*)
Rotterdam, 100 bgs.

Citric Acid—
Bordeaux, 4 cks.

Colours—
Rotterdam, 59 cks.
Baltimore, 195 brls.
Genoa, 4 cs.

Copper Ashes—
Antwerp, 2 pks.

Copper Ore—
Callao, 1,897 bgs.
,, a qty. Steinhardt Walker
,, ,,
,, ,, Shaw & Sons
,, ,, Duncan, Fox & Co.
Mollendo, 360 bgs. Lampa Mining Co.
Antofagasta, 550 Woodgate, Sons
,, 380 t. & Co.
,, 184 bgs. Barber & Co.
,, 942 sks. Bank of Tarapaca & Arg.
,, 1,142 Crade Cobresde Antofagasta
,, 250 Woodgate, Sons
,, 1,596 t. & Co.
,, 613

Cottonseed Oil—
New York, 153 brls.

Cream of Tartar—
Bordeaux, 70 cks.

Dried Blood—
Campana, 546 bgs.

Dyestuffs—
Chestnut Extract
Leghorn, 149 brls.
Cochineal
Las Palmas, 20 ygs.
Dyewood Extract
New York, 11 brls.
Philadelphia, 50
Fustic
Curacao, 2,466 pcs.
Hemlock Extract
Halifax, 165 cks. Boutcher, Mortimore & Co.
Myrabolans
Bombay, 4,748 bgs. 1,344 pkts.
,, 1,017 Graham & Co.
,, 168 Sassoon & Co.
Sumac
Barcelona, 100 bgs.
Alicante, 6
Tannin Extract
Rotterdam, 50 cks.
Bordeaux, 616 Francis & Co.
,, 174
Turmeric
Bombay, 75 bgs.
Valonia
Smyrna, { 2,539 bgs. / 102 t. 5 c.

Farina—
Rotterdam, 10 bgs.

Flux Skimmings—
Boston, 80 pks. Sheldón & Co.

Glue—
Antwerp, 4 cks.
Boston, 20 brls.
Rouen, 4 cs. Co-op. Wholesale Soc., Ld.

Glycerine—
Campana, 6 dms.
P. Arenas, 42 Duncan, Fox & Co.

Infusorial Earth—
Hamburg, 47 bgs.

Lactic Acid—
Hamburg, 22 cks.

Lithopone—
Rotterdam, 140 cks.

Magnesite—
Rotterdam, 163 bgs.

Manganese Ore—
Bombay, 975 t.

Manganese Silicon—
Bordeaux, 59 cks.

Mineral White—
Bordeaux, 480 bgs. Francis & Co.

Olive Oil—
Bordeaux, 186 cs.
Genoa, 130 51 pks.
Corfu, 33 cks.
Smyrna, 777 brls.

Oxalic Acid—
Hamburg, 11 cks.

Paraffin Scale—
New York, 550 brls. Anglo-Am. Oil Co.

Paraffin Wax—
Amsterdam, 339 bgs.

Potash—
Hamburg, 83 cks. 20 dms.

Potash Lye—
Hamburg, 20 dms.

Potash Salt—
Genoa, 119 brls. Whittington & Co.

Potassium Chlorate—
Gothenburg, 25 cks.

Pyrites (Iron)—
Huelva, 2,049 t. Matthiessen & Co.
,, 2,070 t.

Red Lead—
Rotterdam, 196 cks.

Rosin—
Bordeaux, 27 cks. Francis & Co.
,, 517

Rubber—
New York, 4 cks. 18 bls.
Loango, 2 Hatton & Cookson
C. Lopez, 5 Holt & Co.
Calabar, 4 African Assoc.
C. Coast, 1 Millers Bros.
Sekondi, 3 Russell & Co.
Montreal, 6 cs.
Manaos, 427
Itacoatiara, 4
Para, 1,127
Saltpond, 1 pk. F. & A. Swanzy
Labou, 9 cks. Cie Francaise
,, 1 H. T. Rider
Conakry, 3 pns. Cie Francaise
Antwerp, 56 pks.
Maranham, 12 cs.
Parahyba, 583
Hamburg, 18
Winnebah, 1 pn. Russell & Co.
,, 2 cks. Millers Ltd.
Attualoc, 3 ,,
Benin, 1 brl. Millward, Bradbury
H. Assini, 9 cks. Millers, Ld.
,, 1 brl. 1 cs. A. Hartrodt
,, 1 bx. Ashton, Kinder & Co.
Half Jack, 1 ck. Rider, Son & Co.
Sassandra, 3 1 cs. W. D Woodin.
Labou, 3 ,,
Sassandra, 7 R. & D. King
,, 6 Cie Francaise
,, 2 Rider, Son & Co.
,, 12
Labou, 6 Liberian Rubber Co.
River Cess, 1 ,,
Sherbro, 5 Cie Francaise
S. Leone 5 Pickering & Berthoud
Conakry, 25 Cie Tran. Occul
,, 6 Union African Co
,, 10 Broadhurst,
,, 50 brls. Sons & Co.
,, 4 Draper & Co.
Bathurst, 7 brls. Cros & Co.
Dakar, 13 14 bgs.
Warri, 22 cks. Holt & Co.
Forcados, 1 pk. MacIver
,, 53 bgs. & Co.
Benin River, 6 Bey & Co.
,, 1 Benin River Prod. Co.
Saltpond, 3 Russell & Co.
,, 3 Fischer & Co.
Assini, 2 Paget, Digby & Co.
,, 1 Maclaren, Brcs. & Co.
,, 5 Bunge & Co.
,, 4 Shroder, Geb & Co.
,, 1 Steinburg & Co.
,, 4 Cie Francaise
, 40

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Rubber—
G. Bassam, 6 cks. Cie Francaise
,, 10 Page, Digby & Co.
Half Jack, 4 Bunge & Co.
,, 1
Lahou, 11 R. & W. King

Saltpetre—
Hamburg, 20 kgs.

Salt (Waste)—
Hamburg { 4,000 bgs. / 243 t.

Scale Wax—
Baltimore, 120 brls.

Silver Ore—
Callao, a qty. Steinhardt Walker & Co.
,, ,,
,, ,, Shaw & Sons
,, ,, Duncan, Fox & Co.
Antofagasta, 100 bgs. Widenmann Broicher

Soap—
Boston, 17 brls. a qty.
Genoa, 190 cs.
Leghorn, 200
Naples, 16
Corfu, 6
Smyrna, 20

Soda—
Genoa, 91 cks.

Sodium Nitrate—
Iquique, 31,484 bgs.

Starch—
Rotterdam, 92 cs.
New York, 300 bxs.
Philadelphia, 55 brls.
Amsterdam, 3 81
Antwerp, 120 cks. Fletcher & Co.
,, 20 80 bxs.

Stearine—
Boston, 67 tres.
St. John's, N'fld., 11 cks. Job Bros.
Rotterdam, 6 bls.

Sulpho-cyanide—
Hamburg, 10 cks.

Sulphur—
Catania, 2,712 pks.

Sulphur Ore—
Palermo, 100 brls.

Talc—
Genoa, 100 bgs.

Tallow—
Boston, 10 tres. Morris Beef Co.
,, 475 800 brls.
N. York, 1,285 450 100 hgds.
Baltimore, 116 Volk & Co.
,, 5
Boston, 300 brls. Lane & Co.
Campana, 66
Philadelphia, 1,071 tres.
Rouen, 25 bgs. Co-op. W'sale Soc., Ld.

Tartaric Acid—
Rotterdam, 20 cks.

Tin Ore—
Antofagasta, 992 bgs. Titley & Co.
,, 4,139 London City & Mid. Bk.

Ultramarine—
Rotterdam, 74 cks.

Wax—
Parahyba, 332 bgs.

White Lead—
Rotterdam, 156 cks.

Wolfram Ore—
Antofagasta, 26 bgs. Widenmann Broicher

Zinc Oxide—
New York, 450 brls.
Antwerp, 24

Zinc White—
Rotterdam, 48 cks.
Rouen, 20 Co-op. W'sale Soc.
Antwerp, 11

MANCHESTER.

Week ending June 29.

Barytes—
Hamburg, 21 cks.
Rotterdam, 100 cbys.

Caustic Potash—
Gothenburg, 8 dms.

Chemicals (*otherwise undescribed*)
Ghent, 50 bgs.
R'terdam, { 104 cks. / 40 cs. 3 pks.

Coal Products—
Alizarine
R'tterdam { 55 brls. / 108 cks.
Aniline Colours
Christiania, 1 bx.
Aniline Salt
Rotterdam, 266 cks.
Creosote Salt
Rotterdam, 15 cks.
Cresylic Acid
Rotterdam, 8 cks.
Paranitraniline
Rotterdam, 7 cks.
Pitch
Hamburg, 35 brls.

Colours—
Hamburg, 7 cks.
Rouen, 159
Antwerp, 1 Fletcher & Co.
R'tterdam { 100 40 cs. / 319 brls.

Dextrine—
Stettin, 400 bgs.
,, 10 Browne, Geveke & Co.

Dried Blood—
Ghent, 20 cs.

Dyestuffs—
Indigo Paste
Rotterdam, 125 cks.
Tannin
Hamburg, 19 cks.
Tannin Extract
Ghent, 50 cks.

Farina—
Stettin, 450 bgs. Browne, Geveke & Co.
,, 1,950
Rotterdam, 100 N. W. Jackson
,, 1,225
Hamburg, 100

Ferro Chrome—
Rouen, 65 cks.

Gelatine—
Antwerp, 10 cs.

Glucose—
Stettin, { 10 cks. / 100 bgs.

Glue—
Antwerp, { 30 bgs. / 5 cks. 174 bls.
Hamburg, 20
Rouen, 4
Rotterdam, { 4 / 4 25 cs. / 210 bgs.

Lamp Black—
Ghent, 6 brls.

Litharge—
Rotterdam, 14 cks.

Nickel Salt—
Rotterdam, 5 cks.

Potash—
Montreal, 11 brls.

Potassium Prussiate—
Rotterdam, 7 cks.
Hamburg, 13

Red Lead—
Rotterdam, 25 cks.

Rubber—
Antwerp, 18 bls.

Soap—
Rotterdam, 4 cs.

Sodium Acetate—
Antwerp, 34 cks.

Sodium Nitrite—
Rouen, 20 cks.

Sodium Prussiate—
Antwerp, 10 cks.

Starch—
Antwerp, 646 cs.

Stearine—
Hamburg, 15 brls.
Rotterdam, 26
Antwerp, 117 bgs.

Thorium Nitrate—
Hamburg, 165 cs.

Turpentine—
Riga, 30 brls.

Ultramarine—
Rotterdam, { 4 cks. 12 pks. / 20 cs.

Wax—
Hamburg, 22 bgs.

Zinc Dust—
Stettin, 13 cks.

Zinc Oxide—
Antwerp, 10 brls.

Zinc White—
Stettin, 10 cks.

HULL.

Week ending June 29.

Antimony Ore—
V. Cruz, 145 bgs.

Barytes—
Antwerp, 20 cks. Wilsons & N. E. R. S. Co.
Amsterdam, 64 100 bgs. Hull & N. S.S. Co.
Antwerp, 122 461
Rotterdam, 20 Hull & N. S.S. Co.

Calcium Carbide—
Christiania, 10 dms. Wilson, Sons & Co.

Chemicals (*otherwise undescribed*)
Rotterdam, 8 cs. 6 brls. Hull & N. S.S. Co.
Bremen, 5 Veltmann & Co.

Coal Products—
Alizarine
Rotterdam { 5 cks. / 14 cs. / 273 brls. H. & B. Rly. S.S. Line
,, 4 cks. Hull & N.
28 pks. S.S. Co.
Aniline
Rotterdam, 56 cks. 6 cs. H. & B. Ry. S.S. Line
,, 37 pks. Hull & N. S.S. Co.
Naphthaline
Antwerp, 84 brls.
Tar Oil
Rotterdam, 40 cks. Hull & N. S.S. Co.

Colours—
Hamburg, 100 cs.
Rotterdam, 111 pks. Hull & N. S.S. Co.
Antwerp, 60 7 cks. Wilsons & N. E. R. S. Co.

Dextrine—
Stettin, 50 bgs.

Farina—
Harlingen, 120 bgs. Hull & N. S.S. Co.
Amsterdam, 100 ,,
Stettin, 200 ,,

Fish Oil—
Hamburg, 100 brls.

Glucose—
New York, 541 brls.

Glue—
Dunkirk, 20 bgs. Wilsons & N. E. R. S. Co.
Hamburg, 5 ,,

Glycerine—
Hamburg, 2 cks.

Lactic Acid—
Rotterdam, 10 cks. Hull & N. S.S. Co.

Lithopone—
Stettin, 26 cks. Wilson, Sons & Co.
Rotterdam, 90 H. & B. Ry. S.S. Line

Phosphate—
Ghent, 100 t.

Potash—
Dunkirk, 6 cks. Wilsons & N. E. R. S. Co.
,, 130
Antwerp, 10 dms. ,,

Red Lead—
Rotterdam, 20 cks. H. & B. Ry. S.S. Line

Soap Powder—
New York, 1,000 bxs.

Soda—
Ghent, 50 bgs.

Starch—
Bremen, 1,165 cs. 5 brls. Veltmann & Cos
Antwerp, 156 Wilson. & N. E. R. S. Co.
Ghent, 20 ,,
,, 53
New York, 110 bgs. Wilsons Sons & Co.

Ultramarine—
Bremen, 26 cks. Veltmann & Co.

White Lead—
Rotterdam, 20 cks. Hull & N. S.S. Co.
,, 19 H. & B. Ry. S.S. Line

Zinc Oxide—
Antwerp, 20 brls.
New York, 600
Stettin, 10 cks. Wilson, Sons & Co.

Zinc White—
Rotterdam, 16 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending July 4.

Acetic Acid—
Rotterdam, 25 cks.

Albumen—
Hamburg, 5 cs.

Alcohol—
Hamburg, 1 ck.

Alcohol (Wood Spirit)—
Philadelphia, 99 brls.

Alumina—
Amsterdam, 400 bgs.

Antimonin Salt—
Rotterdam, 4 cs.

Arsenic—
Oporto, 55 brls.

Barytes—
Hamburg, 50 bgs.
Rotterdam, 370

Barium Sulphate—
Antwerp, { 7 brls. / 470 bgs.

Bleaching Powder—
Hamburg, 61 cks.

Calcium Carbide—
Gothenburg, 100 dms.

Carbon Black—
New York, 14 cs.

Castor Oil—
London, 45 cks.

Ceresine—
Hamburg, 5 bgs.

Chemicals (*otherwise undescribed*)
Rotterdam, 1 cs.
Hamburg, 5 cks.
Christiania, 19

Coal Products—
Alizarine
Rotterdam, 125 cks.
Aniline
Rotterdam, 4 pks.
Naphthol
Rotterdam, 4 cks.
Tar
Hamburg, 2 cks.
Tar Oil
Hamburg, 10 brls.

Colours—
Antwerp, 5 cks.
Hamburg, 18 pks.
Rotterdam, 197

Cream of Tartar—
Bordeaux, 5 cks.

Dried Blood—
Naples, 12 bgs.

Dyestuffs—
Cutch
Rangoon, 800 bxs.

Farina—
Dundee, 2,583 bgs.

Ferro Silicon—
Christiania, 40 cs.

Glue—
Rotterdam, 60 bgs.
Antwerp, 400 10 brls.

Linseed Oil—
Amsterdam, 142 brls.
Rotterdam, 116

Lithopone—
Rotterdam, 56 cks.

Magnesium Chloride—
Hamburg, 230 cks.

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Magnesite—
Trieste, 530 bgs.
Fiume, 923
Mineral White—
Malaga, 100 bgs.
Venice, 250
Trieste, 300
Molasses—
Amsterdam, 1 ck.
Oleine—
Rotterdam, 6 cks.
Antwerp, 31 brls.
Olive Oil—
Leghorn, 1 brl.
Phenacetine—
Rotterdam, 1 cs.
Potash—
Hamburg, 7 cks. 40 dms.
Purple Ore—
Nantes, 720 t.
Pyrites (Copper)—
Huelva, a qnty. Tharsis S. C. Co.
Red Lead—
Rotterdam, 20 cks.
Rosin—
Lisbon, 30 bls.
Baltimore, 2,200 brls.
New York, 449
Amsterdam, 346 bgs.
Rubber—
Rotterdam, 1 crt.
Salt—
Hamburg, 1 ck.
Saltpetre—
Hamburg, 4 cks.
Soap—
P'delphia, 2,000 bxs.
Fiume, 40 cs.
Rotterdam, 1
Soap Stock—
Philadelphia, 181 brls.
Sodium Acetate—
Antwerp, 18 brls.
Starch—
Antwerp, { 782 bgs. 60 brls.
Fiume, 10
Rotterdam, 100 cs.
Stearine—
Rotterdam, 26 bls.
Sulphur—
Catania, 240 bgs.
Tartar—
Bordeaux, 10 cks.
Tartaric Acid—
Rotterdam, 1 ck.
Ultramarine—
Rotterdam, 23 cs.
Wax—
Baltimore, 647 brls.
Phila'phia, { 164 bxs. 20 cs.
Wax (Mineral)—
Hamburg, 10 bgs.
Zinc Oxide—
Antwerp, 21 brls.
Zinc Sulphate—
Hamburg, 2 bgs.

TYNE.

Week ending June 29.

Alumina—
Rotterdam, 500 bgs. Tyne S.S. Co.
Barytes—
Rotterdam, 65 cks. Tyne
300 bgs. S.S. Co.
Coal Products—
Aniline Colours
Rotterdam, 1 ck. Tyne S.S. Co.
Colours—
Rotterdam, 4 cks. Tyne S.S. Co.
Cryolite—
Copenhagen, 1 ck. Nielsen, Anderson Co.
Linseed Oil—
Rotterdam, 36 brls. Tyne S.S.Co.
Metal Ashes—
Rotterdam, 9 cks. Tyne S.S. Co.
Salicylic Acid—
Rotterdam, 1 brl. Tyne S.S. Co.
Starch—
Rotterdam, 82 cs. Tyne S.S. Co.
Stearine—
Rotterdam, 10 bgs. Tyne S.S. Co.
Tartaric Acid—
Rotterdam, 20 cks. Tyne S.S. Co.
Ultramarine—
Rotterdam, 6 pks. Tyne S.S.Co.
Zinc White—
Rotterdam, 6 cks. Tyne S.S.Co.

GOOLE.

Week ending June 29.

Caoutchouc—
Hamburg, 14 cks.
Caustic Potash—
Hamburg, 9 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 154 bgs.
Amsterdam, 50
Hamburg, 47 cks. 4 cs.
Rotterdam, { 2 pks. 85 brls. 5 dms.
Coal Products—
Naphthol
Hamburg, 7 brls.
Dyestuffs (*otherwise undescribed*)
Antwerp, 33 cks. 5 cs.
Hamburg, 278 24
Boulogne, 73 16 pks.
Rotterdam, { 491 brls. 91 cs.
Dyestuffs—
Logwood
Monte Cristo, 320 t.
Quebracho Extract
Antwerp, 39 cks.
Farina—
Amsterdam, 20 bgs.
Delfzyl, 371
Hydrogen—
Ghent, 4 crbys.
Oleine—
Antwerp, 60 brls.
Oxalic Acid—
Hamburg, 5 cks.
Oxygen—
Ghent, 1 crby.
Plumbago—
Hamburg, 3 cs.
Potash—
Dunkirk, 8 dms.
Phosphate—
Hamburg, 915 bgs.
Pyrites (Iron)—
Drontheim, 1,200 t.
Saltpetre—
Antwerp, 135 bgs.
Hamburg, 20 cks.
Salt (Waste)—
Hamburg, { 850 t. 642 cks. 500 bgs.
Starch—
Dunkirk, 200 cs.
Antwerp, 160
Stearine—
Boulogne, 14 cks.
Wax—
Hamburg, 12 cs.
Zinc Oxide—
Hamburg, 10 cks.

GRIMSBY.

Week ending June 26.

Barytes—
Antwerp, 50 bgs.
Caoutchouc—
Antwerp, 6 cs.
Hamburg, 64 pks.
Chemicals (*otherwise undescribed*)
Hamburg, 3 cks. 3 cs.
Colours—
Rotterdam, 5 cs.
Antwerp, 31 cks. 73 pks.
Hamburg, 16 47
Dyestuffs (*otherwise undescribed*)
Hamburg, 2 cks.
Ferro Chrome—
Dieppe, 20 cks.
Glue—
Dieppe, 12 bgs.
Gluestock—
Hamburg, 314 bgs.
Phosphate of Lime—
Hamburg, 20 bgs.
Sodium Bisulphite—
Antwerp, 8 cks.
Sodium Phosphate—
Antwerp, 17 cks.
Starch—
Antwerp, 220 cs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 3.

Alum—
Jaffa, 5 t. 15 c.
Ammonia—
Madras, 2 cs. £6
Melbourne, 2 cks. 49 156
Sydney, 5 15
Colombo, 1 12
Algoa Bay, 5 7
Durban, 30 72
Rangoon, 4 12
Channel Is., 12 16
H. Kong, 4 12
Singapore, 5 7
P. Said, 3 29
Shanghai, 5 9
Amoy, 2 5
Delagoa B., 9 18
Karachi, 15 22
Ammonia (Anhydrous)—
Colombo, 18cs. 18cylds. £207
Ammonium Carbonate—
Penang, 15 cs. £24
Yokohama, 5 cks. 27
Con'nople, 2kgs. 5 41
Bombay, 5 10
Rangoon, 40 97
Brisbane, 6 12
Singapore, 6 27
Ammonium Muriate—
Algoa Bay, 1 c. £3
Melbourne, 12 14
P. Elizabeth, 4 17
H. Kong, 3 7
Brisbane, 5 23
Ammonium Sulphate—
Valencia, 800 t. 11 c. £8,800
Madeira, 30 13 365
Ammonium Sulphate—
Antwerp, 25 t. £300
Hamburg, 20 240
Mauritius, 50 631
Yokohama, 100 1,140
Ammonium Triphosphate—
Antwerp, 2 cks. £10
Antimony (Regulus)—
Copenhagen, 11 c.
Gothenburg, 1 t.
New York, 25 1
S.Petersburg, 30
Hamburg, 3 10
Antimony Sulphide—
Treport, 2 cks. £35
Arsenic—
Yokohama, 20 kgs. £36
Adelaide, 13 dms. 19
Asbestos—
Bombay, £20
Colombo, 18
Barium Binoxide—
Paris, 15 t. 8 c. £522
Treport, 2 1 68
P'delphia, 5 2 113
Paris, 15 510
Barium Carbonate—
Bordeaux, 101 bgs. £53
Benzoic Acid—
Baltimore, 1 cs. £8
Bisulphide Lime—
Durban, 6 shds. £13
Bleaching Powder—
H. Kong, 20 jars. £7
Brisbane, 11 c. 6
Bones—
Hamburg, 20 t.
Boracic Acid—
Adelaide, 1 t. £27
Shanghai, 9 c. 14
Borax—
Karachi, 10 c. £8
Calcium Carbide—
H. Kong, 1 t. £18
Calcium Chloride—
Sydney, 1 t. 10 c. £19
Carbon Bisulphide—
Singapore, 20 cs. £19
Caustic Soda—
Melbourne, 1 t. 1 c. £23
Marseilles, 3 6 36
Wellington, 4 —
Zanzibar, 2 21
Carbon Bisulphide—
Sydney, 2 t. £47
Caustic Potash—
Melbourne, 8 dms. £25
Chemicals (*otherwise undescribed*)
Hiogo, 25 cks. £60
Madras, 4 cs. 23
Beira, 36pks. 29
Montreal, { 5 5 c. 13 9 cs. 279
Sydney, 5 206 368
Rotterdam, 100 198
Bombay Bay, 56kgs. 5 22bgs. 162
Karachi, 1ck. 20 219
Cologne, 90 225
Delagoa B., 40 72
Singapore, 1 9
Philadelphia, 2 6
Algoa Bay, 1kg. 30 55
Melbourne, 104 3 180
Piræus, 5 11
Con'nople, 2 76 194
Hamburg, 1 4 152
Chemicals (*otherwise undescribed*)
Boulogne, 2 cs. £26
Ro'hampton, 40 cks. 64
Brisbane, 10 26
Penang, 1 9
Rangoon, 12 83
B. Ayres, 3 20
Odessa, 2 55
Mauritius, 2pks. 46
Durban, 5 7
Ostend, 4 140
Halifax, 41 70
Madras, 4 10
Shanghai, 6 109
Citric Acid—
Karachi, 2 c. £16
Algoa Bay, 1 cs. 22
Amsterdam, 17 121
Genoa, 10 100
Hamburg, 3 t. 14 573
Taiping, 1kg. 12
Brisbane, 16pk. 54
Penang, 1 12
Coal Products (*otherwise undes.*)—
Boston, 500 brls. £310
H. Kong, 20 cs. 7
Coal Products—
Alizarine
Lisbon, 2 cks. £32
Rouen, 4 131
Boston, 8 162
Madras, 77 291
Tuticorin, 63 408
Aniline
Omaru, 9 cks. £87
Montreal, 1 16
Copenhagen, 4 pks. 9
Aniline Dye
Boulogne, 1 cs. 6
Malmo, 2 pks. £6
Sydney, 1 33

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Coal Products—
Aniline Oil
Boston, 5 dms. £110
Genoa, 10 300
Anthracene
Cologne, 325 cks. £352
Hamburg, 325 342
Benzol
Paris, 50 cks. £100
Benzoline
Durban, 44 dms. £6
Carbolic Acid
Wellington, 7 pks. £8
New York, 150ck. 35 cs. 391
Melbourne, 20 dms. 8
Rotterdam, 98 350
Boston, 13 29
P'delphia, 49 118
Riga, 10 30
Brisbane, 20 8
H. Kong, 20 10
Carbolic Acid (Crystals)
Wellington, 7 pks. £8
Montreal, 33 cks. 146
Sierra Leone, 3 cs. 9
Creosote
Boston, 63 cks. £83
Ghent, 5 7
Brisbane, 40 dms. 10
Naphtha
Sydney, 30 dms. £14
Naphthaline
Calcutta, 150 cs. £69
Oden, 5 10
Pitch
Delagoa B., 50 dms. £24
Alexandria, 300 brls. 94
Antwerp, 1,760 t. 2,312
Christiania, 20 frkns. 8
Hamburg, 50 brls. 140
Zeebougge, 825 t. 1,072
Rouen, 113 brls. 256
Adelaide, 20 t. 10
Salonica, 50 24
P'delphia, 100 45
Pyridine
Stettin, 10 dms. £326
Tar
Algoa Bay, 110 dms. £8
Madras, 204 mlts. 125
Melbourne, 1 pk. 6
Townsville, 100 21
Delagoa B., 125 6
Brisbane, 50 13
Durban, 350 34
Santos, 7 brls. 11
Axim, 15 6
Calcutta, 2 t. 10 c. 20
Tar Oil
Gothenburg, 200 brls. £190
Melbourne, 21 32

Copper Sulphate—
Antwerp, 26 t. £850
Leghorn, 10 330
Bordeaux, 50 500 sks. 4,600
Rouen, 12 384
Rotterdam, 45 1,485
Odessa, 15 465
Ghent, 10 320
S.Petersburg, 5 153
Cologne, 27 19 c. £789
Delagoa B., 3 5
Galatz, 9 17 307
Konigsberg, 1 3 34
Wellington, 1 32
Mombasa, 10 18

Cottonseed Oil—
Rotterdam, 79 t. 6 c.

Cream of Tartar—
New York, 8 c. £32

Cyanide *(otherwise undescribed)*—
Townsville, 2 t. 2 c. £194
Brisbane, 1 4 106
Melbourne, 6 8 415
Fremantle, 13 10 1,133

Disinfectants—
H. Kong, 5 cs. £9
Calcutta, 11 c. 35
Karachi, 1,020 dms. 58
Bombay, 300 83
Algoa Bay, 1 c. 6
Madras, 110 11
Auckland, 3 cs. 9
Boston, 3cks. 7 504
Penang, 150 dms. 32
Adelaide, 40 kgs. 10
Singapore, 25 27
Cologne, 10 cs. 180
Cape Town, 4 5
Delagoa Bay, 118 pks. 41
Durban, 1 12
Sierra Leone, 3 cs. 11
Shanghai, 21 cks. 48
Mombasa, 40 240 dms. 106
Taiping, 10 5
E. London, 25 16

Disinfectants—
Bordeaux, 4 t. £27
Montreal, 2 cs. 6
Sydney, 3 9
Wellington, 1 17
Brisbane, 2 3pk. 171
Karachi, 125 dms. 14

Dyestuffs—
Wood Extract
New York, £85

Fertilisers—
Channel Is., 2 t. £21

Glycerine—
Baltimore, 1 c. £9
New York, 20 t. 7 635
Callao, 13 23
E. London, 1 7
Cape Town, 1 6
Yokohama, 3 14
Calcutta, 6 13

Guano—
Channel Is., 5 t. £63

Hydro Carbon—
Cologne, 15 dms. £375

Hydrochloric Acid—
Brisbane, 10 c. £4

Hydrogen Peroxide—
Sydney, 6 cs. £20

Lactic Acid—
Sydney, 8 pks. £38

Linseed Oil—
Adelaide, 1 t.
Alexandria, 8 c.
Auckland, 4 2
Brisbane, 29 10
C. Town, 12
Durban, 2 8
Karachi, 2
Malta, 3 2
Mombasa, 6
Montreal, 4 13
Nelson, 1 10
N. Plymouth, 1
Penang, 3 8
P. Elizabeth, 11 2
Rio de Jan., 37 12
Santos, 5 18
Sydney, 5 8
Trinidad, 1 14
Wellington, 10
Azores, 14
Bordeaux, 1 15
Bombay, 5
Calcutta, 12
Delagoa Bay, 1 11
Halifax, 14 18
Hamburg, 1 7
H. Kong, 4 4
Madras, 2 12
Maryborough, 2
Melbourne, 14 2
Napier, 2 5
Ostend, 3 10
P. Swet'ham, 6 5
Shanghai, 14 3
Sierra Leone, 1 1
Singapore, 1 18
Townsville, 2
Vera Cruz, 9 15
Zanzibar, 8

Magnesium Carbonate—
Durban, 2 cks. £6

Manganese Salts—
Boulogne, 1 c. £6

Manure—
Acajutla, 5 t. £44
Riga, 219 530
Lisbon, 4 19 22
Auckland, 25 9 85
Mauritius, 505 6 3,045
Yokohama, 50 1 850
Landerneau, 112 784
Hamburg, 55 2 147
Havana, 95 500

Mercury Bichloride—
Bombay, 6 cs. £63

Nickel Sulphate—
Kobe, 5 cs. £9
Melbourne, 2 10

Nitric Acid—
Colombo, 4 c. £5
C. Town, 1 2
Sydney, 4 6

Oleic Acid—
Philadelphia, 2 cks. £27

Phosphoric Acid—
Adelaide, 2 cs. £7
Mauritius, 25 cks. 85

Phosphorus—
Napier, 1 cs. £6

Plumbago—
Bombay, 4 t.
Calcutta, 1
Stockholm, 5
Paris, 4 18 c.

Potash—
Chicago, 1 t. 5 c. £29
Brisbane, 6 7
Brussels, 17 55

Potassium Chlorate—
Sydney, 15 c. £28

Potassium Cyanide—
Paris, 10 c. £42
Melbourne, 1 76
Townsville, 3 t. 26

Quinine—
Accra, 280 ozs.

Salammoniac—
Durban, 5 c. £9
Batoum, 3 t. 105
Trebizonde, 1 40
Dusseldorf, 1 40
Sydney, 1 2 35
Brisbane, 7 13
Melbourne, 3 cks. 19

Salicylic Acid—
Yokohama, 5 cs. £50

Salt—
Karachi, 2 t.

Saltcake—
Adelaide, 10 t. £34
Quebec, 130 282
Rotterdam, 5 10

Saltpetre—
Santos, 2 t. 5 c. £58
Rio de Jan., 2 6 57
Adelaide, 1 5 10 kgs. 44
Lisbon, 6 12 168
Hamburg, 8 11 231
Melbourne, 1 10 39
Rangoon, 7 cks. 9

Sheep Dip—
Durban, 150 dms. £27
P. Arenas, 200 100 cs. 375
B. Ayres, 1,000 bgs. 453
Delagoa Bay, 80 pks. 25
Fremantle, 25 47
Melbourne, 27 dms. 5
Blenheim, 3 cks. 60 150 307
B. Blanca, 700 500 1,173
Wellington, 180 625 1,181
Wanganui, 120 225 440
Brisbane, 200 85
Adelaide, 300 50 225

Soap—
Aden, 3 c.
Alexandria, 11
Auckland, 3
Bermuda, 12
Bombay, 4 t. 5
Colombo, 4
Durban, 3 5
E. London, 9
Limon, 2
Lyttelton, 3
Malta, 2
Montreal, 17
Wellington, 1 5
Yokohama, 5
Beira, 1
Boulogne, 4
Calcutta, 3 11
C. Town, 14
Channel Is., 1
Christchurch, 5
Cochin, 13
Constantinople, 2
Ghent, 6
Hamburg, 4
H. Kong, 11
Hudson Bay, 7 8
Karachi, 1 12
Kobe, 2
Lisbon, 2
Madras, 6 10
Melbourne, 2
Naples, 4
Osaka, 10
Ostend, 10
Penang, 1
P. Elizabeth, 1
Rangoon, 6
Rotterdam, 5 6
Sekondi, 1
Sydney, 3
Valparaiso, 3

Soda Ash—
Zanzibar, 3 t. 18 c. £19
Mombasa, 8 38

Soda Crystals—
Constanti'ple, 5 t. £21
Gibraltar, 1 12 6
Mombasa, 3 10

Sodium Arseniate—
Durban, 11 t. £477

Sodium Bicarbonate—
Durban, 1 t. £15
Amoy, 1 8
Mombasa, 6 29
Port Sudan, 7 30
Zanzibar, 3 16
Nairobi, 12 3
Charlton, 6 c. 6

Sodium Cyanide—
Townsville, 15 c. £1,365

Sodium Hyposulphate—
Melbourne, 1 t. £8

Sodium Nitrate—
Madeira, 2 t. 1 c. £24

Sodium Sulphate—
Christiania, 50 t. £100
Wellington, 1 3 c. 5

Starch—
Karachi, 5 c.
Montreal, 12
St. Petersburg, 13
Auckland, 2 t.
Beira, 4
Durban, 7
E. London, 5
Karachi, 13
Melbourne, 9
Piræus, 12
Sydney, 6

Sulphur—
Rotterdam, 1 ck. £9
Algoa Bay, 4 t. 9 c. 35
Channel Is., 2 2 13

Sulphuric Acid—
Algoa Bay, 8 c. £7
Bombay, 7 cs. 7
Taiping, 1 t. 10 15
Channel Is., 18 10
Sydney, 2 3
Colombo, 2 16 12

Superphosphates—
Lisbon, 148 t. 13 c. £443

Tallow—
Rotterdam, 30 t. 9 c.
Bombay, 14 18
Callao, 1 19
S. Petersburg, 76 16

Tannic Acid—
Santos, 1 kg. 1 c. £13

Tartaric Acid—
Karachi, 1 c. £6
Santos, 12 65
Wellington, 2 11

Turpentine—
Genoa, 1 t. 19 c.

White Lead—
Adelaide, £160
Auckland, 219
Bombay, 13
Brisbane, 300
C. Town, 299
E. London, 105
Melbourne, 716
Singapore, 27
Wellington, 36
Calcutta, 53
Delagoa Bay, 31
Durban, 47
New York, 178
Otago, 55
P. Elizabeth, 32
H. Kong, 13

LIVERPOOL.

Week ending July 3.

Acetic Acid—
V. Cruz, 1 t. £29
Calcutta, 10 13

Alum—
Gibralter, 2 t. 14 c. £15
Corunna, 12 3
Lyttelton, 11 3
Santos, 2 ck. 3
Progresso, 1 brl. 1
Piræus, 2 t. 18 c. 15
Oporto, 4 19 25
Natal, 10 4
Havana, 2 2 15
Braila, 3 16
Salaverry, 9 3
S. Francisco, 43 19 273
Calcutta, 10 £29

Aluminium Sulphate—
Calcutta, 1 ck. £3

Alumino Ferric—
Rio de Jan., 12 t. 7 c. £48

Ammonia—
Singapore, 16 c. £18

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Ammonia (Anhydrous)—
Maranham, 2 t. 2 c. £28

Ammonium Carbonate—
Norrkoping, 19 c. £33
Sydney, 12 20
Corfu, 10 16
Venice, 19 33
Gothenburg, 10 17
Barbadoes, 1 1
Genoa, 1 t. 15 65
Venice, 22 38
M. Video, 2 6

Ammonium Muriate—
Trieste, 1 t. 10 c. £36
New York, 1 36
Genoa, 4 12
Auckland, 1 11 38
V. Cruz, 10 12
Hamburg, 40 13 964
Brisbane, 3 19 66
Hiogo, 18 2 434
Yokahama, 4 6 103
P'delphia, 14 7 339

Ammonium Sulphate—
New York, 35 t. £414
Samarang, 30 306
Las Palmas, 138 1,463
Panarseken, 60 2 c. 732
Sourabaya, 278 3,400
Tegal, 29 1 406
Barbadoes, 55 671
S.Francisco, 11 15 3,565
Madeira, 1 15
Teneriffe, 4 50
Valencia, 471 5,791
P'delphia, 52 617
Havana, 75 900
G. Canary, 1 12

Antimony Sulphide—
N. York, 2,000 lbs. £50

Asbestos—
A'fagasta, 4 bls. 100 bgs.
Coronol, 18
Hamburg, 2 cks.
Constantinople, 1 cs.

Barium Sulphocyanide—
Rio de Jan., 2 t. 1 c. £71

Bleaching Powder—
Boston, 24 cks.
New York, 475 30 brls.
P'delphia, 304
Galatz, 2 dms.
Sydney, 30
Bombay, 10 cs.
Cadiz, 431
Calcutta, 154
Durban, 27
Ghent, 30
Havana, 50 bgs.
Madras, 15
Melbourne, 50
Montreal, 109 cs.
Portland, 306
Rio de Jan., 6 brls.
Santos, 14
Tampico, 7
Sydney, 60 dms.

Bone Meal—
Teneriffe, 7 t. 1 c. £40

Bones—
Las Palmas, 44 t. 15 c. £211
Rouen, 10 2 75
Boston, 3 16 125

Bones (Calcined)—
Hamburg, 9 t. 17 c. £56

Boracic Acid—
Tampico, 10 c. £13
Melbourne, 1 t. 10 39
Vancouver, 1 kg. 2
Victoria, 2 4

Borax—
Oporto, 11 c. £10
Melbourne, 3 t. 10 56
V. Cruz, 4 3
Yokohama, 75 cs. 67
N. Orleans, 1 5 57
Victoria, 2 2
Venice, 15 9
Boston, 30 8 571
New York, 13 12 210
Havana, 1 15
Paris, 1brl. 1
Piræus, 10 7
Progresso, 2 2
Havana, 1 15
Cardenas, 8 6
Santiago, 1 15

Calcium Chloride—
Sydney, 15 t. 5 c. £49
Naples, 9 15 20
Lyttelton, 1 2
Dunedin, 2 12 5
Yokohama, 26 5 53
Gothenburg, 3 1 6
Sydney, 15 3 48

Calcium Sulphydrate—
Antwerp, 21 t. 6 c. £89
Ghent, 10 9 44

Carbonic Acid Gas—
Calabar, 16 cs. £38

Castor Oil—
Lisbon, 4 cs.
Vancouver, 20

Caustic Potash—
Christchurch, 2 c. £3
Havre, 5 t. 165
Savanilla, 3 dms. 19

Caustic Soda—
Adelaide, 75 brls. 14 dms.
Bahia, 50
Bilbao, 15
B. Ayres, 8 720
C. Palmas, 2 cs.
Chemulpo, 400
Catania, 15
Genoa, 475
Lyttelton, 228 cks. 15
Malta, 79
Melbourne, 89 brls. 58 / 94 pks.
Newcastle, 120
Rio de Jan., 150 tins
Rotterdam, 63
Rouen, 17
Sydney, 80 trcs. 58
V. Cruz, 40
Wellington, 39 cs. 6
Yokohama, 52
Alexandria, 6
Amsterdam, 15
Bari, 36
Bombay, 45
Brazil, 60 bxs. 175
Brisbane, 18
Calcutta, 40
Cape Town, 64 cs.
Cartagena, 53
Catania, 22
Coronel, 10
Corunna, 8 bls.
Dunedin, 12
Durban, 300 cs.
Galatz, 53
Hamburg, 5
Havana, 120
Invercargill, 64
Karachi, 705
Lisbon, 152
Malaga, 155
Moji, 40
M. Video, 365 tins
Montreal, 740 brls. 40
N. Orleans, 3
Oporto, 126
P. Arenas, 40
Samarang, 20
Santos, 32
Smyrna, 10
Talcahuano, 75
Tocopilla, 151
Valencia, 40 cks. 50
Valparaiso, 30
V. Cruz, 35
Auckland, 35
Galveston, 52
Malmo, 2
Piræus, 15

Chemicals (*otherwise undescribed*)
Bahia, 2 cs. £14
Bilbao, 50 bgs. 19
Montreal, 400 126
Calcutta, 10 t. 29
B. Ayres, 50dm. 25
Hamburg, 15 44
Salenica, 7brls.7pkg. 61
Galatz, 2 15
Trieste, 20 30 kgs. 166
Naples, 5 4 cs. 71
Baltimore, 47 255
New York, 30 cks. 360
Smyrna, 4 brls. 30
Colon, 3 kgs. 4
Panama, 30 23
Hamburg, 45 107
Odessa, 25 pks. 37
Rio de Jan., 7 22
B. Ayres, 500 1,376
Calcutta, 80 41
Bombay, 70 39
Kobe, 140 cs. 129
Cneribon, 5 12

China Clay—
Rio de Jan., 99 cks.
Bombay, 40 332 cs.
Boston, 40 449 t. 10 c.
Gothenburg, 20 cs.
S.Francisco, 128 cks.
N. York, 1,025 895 bgs.
Venice, 40
Calcutta, 75 82 t. 12 c.
V. Cruz, 156

China Clay—
Montreal, 310 t.
N. Orleans, 78 2 c.
P.Elizabeth, 42 10
Portland, 2,014

Citric Acid—
Lisbon, 1 kg. £4

Coal Products—
Aniline
Melbourne, 21 cs.
Montreal, 2 kgs.
Aniline Colour
Barcelona, 2 dms.
Boston, 29 cs.
Montreal, 12
New York, 5kgs.57
Aniline Salt
Boston, 13 cks.
Kobe, 50 kgs.
Piræus, 8
Smyrna, 11
Carbolic Acid (Crystals)
V. Cruz, 3 c. £11
Carbolic Acid (Liquid)
Algoa Bay, 36 dms. £4
P. Arenas, 6 t. 17 c. 100
Auckland, 9 8
Accra, 1 2 35
Carbolic Acid (Solid)
Hiogo, 2 t. 6 c. £131
Montreal, 10 27
Naphthaline
Odessa, 30 t. 5 c. £109
Naphthaline Salts
Odessa, 3 bgs.
Creosote
New York, 27 brls.
Pitch
Volo, 6 brls.
Tar
Batavia, 20 pks.
Philadelphia, 150 brls.
Sourabaya, 25 cks.

Colours—
Rangoon, 11 cs.
Hamburg, 1 kg.
C. Town, 12
Bara, 24

Copperas—
Las Palmas, 22 t. 12 c. £42
G. Canary, 2 2 5
Teneriffe, 10 1
Trebizonde, 3 10
New York, 3 1

Copper Sulphate—
Rostock, 1 t. £34
Constanti'ple, 1 5 c. 42
Nigo, 4 6 136
Dunedin, 2 67
Barcelona, 10 8 333
Victoria, 2 4
Bordeaux, 4 19 150
Wellington, 1 4 38
Canterbury, 2 10 80
Napier, 3 94
Tampico, 25 2 799
Amsterdam, 1 3 36
Odessa, 9 13 301
Karachi, 1 5 40

Cottonseed Oil—
Dakar, 95 brls.
Marseilles, 25

Cream of Tartar—
Vera Cruz, 1 c. £5

Cyanide (*otherwise undescribed*)—
Sekondi, 2 t. 13 c. £175

Disinfectants—
Lyttelton, 43 cs.£51
Otago, 10 kgs. 5
Wellington, 5 6
Timaru, 2 3
Auckland, 10 12
E. London, 2 10
Karachi, 2 10
Manaos, 2 cks. 9
Madras, 20 bgs. 8
Calcutta, 320 dms. 55 / 14 c.
Melbourne, 5 cs. 6
Cape Town, 7 t. 11 c. 24 44
Egwanga, 3 8
Rangoon, 14 cks. 170
Valparaiso, 1 1
C. Coast, 2 6

Dried Blood—
Colombo, 15 t. 5 c. £147
Orotava, 1 4 11
Las Palmas, 5 4 63

Dyestuffs (*otherwise undescribed*)
New York, 10 cks.

Dyestuffs—
Cutch
Barcelona, 20 cs.
Indigo
Melbourne, 1 chst.

Farina—
Pernambuco, 8 cks.

Fluoric Acid—
Demerara, 1 c. £3

Glue—
Antwerp, 11 kgs.
Calcutta, 29 cs.
Havre, 6
New York, 100 bgs.
San Juan, 5
Yokohama, 100

Glycerine—
Auckland, 2 c. £3
Wellington, 1 3
Invercargill, 2 11
Talcahuano, 5 13
Valparaiso, 1 t. 9 5 cs.103
Montreal, 5 255
C. Town, 114 15 4,027
Havre, 4 13 226
Lyttelton, 1 55
Galatz, 19 55
Tientsin, 6 27
Shanghai, 7 6 301
Durban, 4 12
Bombay, 10 29
Dunedin, 4 10
Palmerstone, 1 3
Christchurch, 9 29

Iron Oxide—
Adelaide, 8 cks.
Salonica, 7
New York, 3 t. 9 c.

Iron Sulphate—
Coquimbo, 97 t. 11 c. £250

Lead Ore—
Lagos, 100 kgs.

Linseed Oil—
Alexandria, 82 brls.
Antofagasta, 125 dms.
Beyrout, 55
Caldera, 40
Corunna, 5
Demerara, 60
Palermo, 5
Panama, 10
Parahyba, 2
Pernambuco, 5
P. Said, 7 cks.
Santiago, 37 pks.
Catacola, 5
Genoa, 20
Antwerp, 2 5
Axim, 20
B. Ayres, 25
Callao, 100
Cienfuegos, 20
Guayaquil, 9 cs.
Las Palmas, 5
Mollendo, 50
Para, 26
Parnahyba, 60
St. Dominica, 50
Samarang, 15
Santos, 6 325
Savanilla, 63 pks.
Talcahuano, 14
Taltal, 215
Tampico, 50
Valparaiso, 100

Magnesia—
Cabadella, 1 t. £2
New York, 2cs. 11c. 240lb. 122
San Juan, 3 15
E. London, 4 4
Corunna, 1 cs. 2
Lisbon, 1 1

Magnesium Chloride—
New York, 20 t. 3 c. £54
Rangoon, 14 7

Magnesium Citrate—
Barcelona, 10 c. £42

Magnesia (Calcined)—
Havre, 5 c. £11
Guayaquil, 2 cs. 5 34
M. Video, 1 3

Manganese—
New York, 41 cks.

Manganese Ore—
P'delphia, 10 cks.
New York, 10 t. 10 c.

Manure—
Baltimore, 190 t. 16 c. £738
Cape Town, 18 7
G. Canary, 5 18
Teneriffe, 8 26
Calcutta, 5 10 160
Leghorn, 43 10 226
Havre, 25 4 250

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Nitric Acid—
Burutu, 2 btls. 58.

Olive Oil—
Victoria, 45 cs.

Paraffin Wax—
Pernambuco, 30 cks. 4 cs.
Varna, 72
Rio de Jan., 10
Valparaiso, 150 kgs.

Phosphor Bronze—
B. Ayres, 2 c.
Oporto, 2

Phosphorus—
Shanghai, 1 t. 15 c. £260

Phosphorus (Amorphous)—
Kobe, 2 t. 4 c. £440
Rio de Jan., 12 120

Potassium Bichromate—
Samsoun, 1 t. £31
Nantes, 2 5 c. 43
Bordeaux, 2 15 97
Santos, 4 11

Potassium Carbonate—
Alexandria, 5 c. £15
Canterbury, 4 5

Potassium Chlorate—
Genoa, 20 cks. / 8 t. 5 c. £216
Bari, 2 15 61
Venice, 4 18 128
Hamburg, 1 10 42
Kingston, 2 4 150
New York, 1 35
Shanghai, 2 60
Kobe, 25 750
Tampico, 1 10 45
Sydney, 2 10 91
Rio de Jan., 3 18 117
Leghorn, 1 26

Potassium Muriate—
Las Palmas, 4 t. £37

Potassium Nitrate—
Las Palmas, 10 t. £195

Potassium Silicate—
Amsterdam, 2 t. 12 c. £22

Potassium Sulphate—
Las Palmas, 20 t. £209

Quinine—
Manaos, 5 cs.

Red Lead—
P. Said, 4 cs.
Cienfuegos, 30 kgs.
Manaos, 35 brls.
Parnahyba, 20

Rubber—
Calcutta, 1 cs.
Copenhagen, 7 pks.
Havre, 73 bls.
Melbourne, 1 trc.
Hamburg, 37
Madras, 2

Salammoniac—
Santander, 4 c. £8
Smyrna, 1 t. 10 60
Auckland, 4 10
Lisbon, 2 4
Braila, 5 10
Stockholm, 1 39
Trieste, 1 38
Corunna, 2 4
Bombay, 2 5 83

Salt—
Baltimore, 115 t.
Barbadoes, 50
B. Ayres, 6
Buguma, 25
Burutu, 40
Cape Town, 50
Copenhagen, 30
Demerara, 120
Durban, 960
Egwanga, 50
Ghent, 50
Lagos, 288
Las Palmas, 10
Manaos, 25 15 c.
Montreal, 116 18
Opobo, 45
Para, 202 10
St. Johns, 5
S. Francisco, 120
Thysville, 6
Trinidad, 52 12
Tumba, 10
Vancouver, 647 12
Warri, 4 cs.
E. London, 10
Sydney, 551
Sydney, 10
Yokohama, 4

Salt—
Calcutta, 6,642 t.
Christiania, 350
Fremantle, 700
Futa, 26 15 c.
Hamburg, 101 5
New York, 410
Niger, 10
P. Elizabeth, 32 17
N. Orleans, 340
Rio del Rey, 6 14
Warri, 783

Saltcake—
Antwerp, 70 t. 10 c. £786
Dunedin, 5 18 11
Natal, 2 7
Leghorn, 200 673

Saltpetre—
Victoria, 3 c. £4
Panama, 1 kg. 2
Lisbon, 19 t. 351
Havana, 9 12

Sheep Dip—
Algoa Bay, 10 cs. / 11 t. 13 c. £214 / 2,000 dms.
St. Cruz, 2 4 63
S. Francisco, 11 15 287
P. Madryn, 2 4 62
M. Video, 10 307
Lyttelton, 1 11 48
Dunedin, 2 16 50
N. Orleans, 6 50 cs. 70 40

Silicate of Lime—
San Francisco, 8 cs.

Soap—
Bangkok, 958 pks.
Barbadoes, 400 bdls.
Barcelona, 1 cs.
C. Palmas, 2,730 bxs.
Bombay, 170 8
Boston, 30 15 50 brls.
B. Ayres, 10
Calcutta, 226
C. C. Castle, 51
C. Town, 962 369
Ceuta, 100
Delagoa B., 803
Duala, 20 1
Durban, 227
Falmouth, 150
G. Bassa, 70
Guayaquil, 32
H. Kong, 3,195
Kingston, 25
Mauritius, 612
M. Video, 34
Para, 6
P. Elizabeth, 50 157
Rabat, 8 kgs.
Rangoon, 1,819 347
Rio de Jan., 150 3 cks.
Samarang, 15
Shanghai, 23,074
Sourabaya, 100
Tientsin, 79
Tobago, 50
Accra, 100
Alexandria, 204 62
Antwerp, 315 10
Assini, 300
Axim, 100
Batanga, 50
Benin, 150
Canaria, 332
Catania, 13
Colon, 6
Copenhagen, 50
E. London, 95
Genoa, 10 20
Ghent, 240
Gothenburg, 200
Hamburg, 1,110 140 brls.
Havre, 100
Iquique, 150
Karachi, 837
Kingston, 4,214
Lagos, 160
Lisbon, 50
Manaos, 1,499
Naples, 17
N. Orleans, 4
New York, 47 4 cks.
P. Arenas, 44
Rotterdam, 5,320 14 crts.
St. Johns, 54
Salonica, 60
Samarinda, 45
Sekondi, 30 45
S. Leone, 100 15
Singapore, 3,517 50
Smyrna, 45
Talta, 350
Tangiers, 50
Valparaiso, 22
Venice, 130
Warri, 425

Soap—
C. Palmas, 2,720 bxs.
Demerara, 2,500

Soap Extract—
Melbourne, 720 cs.
Newcastle, 10

Soap Powder—
Tientsin, 40 kgs.
Antwerp, 100 bgs.
Valparaiso, 6 cks.

Soda Ash—
Bombay, 24 cks.
Batavia, 45 50 bgs.
Con'nople, 50 600
Gothenburg, 815 1,063
Kobe, 80
New York, 13
St. Johns, 100
Sourabaya, 60
Yokohama, 33 2,650
Gibralter, 250
Aarhus, 38 450
Antwerp, 18 670
Barcelona, 30
Boston, 32
B. Ayres, 213
Calcutta, 850 bxs.
Callao, 21
Delagoa B., 440
Dunedin, 45
Genoa, 1,058
Hamburg, 329 30 brls.
Havana, 8
Hiogc, 1,034 cs.
Karachi, 250 kgs.
Lyttelton, 83 bgs.
Manaos, 2
Maranham, 6
Montreal, 5 515 brls.
Naples, 676
Oporto, 33
Quebec, 210
Rio de Jan., 140
Rotterdam, 100
St. Johns, 16
Sydney, 864
Venice, 50
V. Cruz, 70 pks.
Wanganui, 9
Wellington, 18
M. Video, 25

Soda Crystals—
A'fagasta, 40 kgs.
Antwerp, 30 cks.
B. Ayres, 300
C. Town, 15
Colombo, 4
Falklands, 14
Hiogo, 50
Quebec, 25
Montreal, 752 brls.

Sodium Bicarbonate—
Calcutta, 170 kgs.
Galatz, 40 22 dms.
Kingston, 520 bgs.
Rangoon, 20
Smyrna, 300
Vancouver, 40 7 cks.
Gibralter, 8
Yokohama, 3,000 bgs.
Alexandretta, 41
Auckland, 363
Bilbao, 60 brls.
Brisbane, 431
Delagoa B., 20
Demerara, 20
Dunedin, 226 809 pks. / 110 dms.
Genoa, 362 cks.
Hamburg, 20
Karachi, 420
Lyttelton, 574
Madras, 501
Malaga, 50
Malta, 20
Manaos, 10
Montreal, 290 cs.
Naples, 148
Panama, 10
Quebec, 200 400 bgs.
Rio de Jan., 50
Rouen, 14 cks.
St. Johns, 375 20 brls.
San Sebastian, 5 cks.
S. Leone, 7
Sydney, 458 52
Venice, 838 pks.
V. Cruz, 150

Sodium Carbonate—
Amsterdam, 50 bgs.

Sodium Chlorate—
Kobe, 210 pks.

Sodium Peroxide—
Patras, 1 c. £6

Sodium Silicate—
Bombay, 37 cks.
B. Ayres, 97 brls.
Genoa, 33
Hiogo, 20
Lyttelton, 104
Melbourne, 39
Montreal, 50
Rotterdam, 32
Sydney, 47
V. Cruz, 50
Catania, 170
Invercargill, 39 cs.
Oporto, 35

Sodium Sulphide—
Barcelona, 8 t. 16 c. £82
S. Petersburg, 10 1 10

Starch—
Salonica, 50 bgs.

Stearine—
Copenhagen, 50 trcs.
Genoa, 10 pks.

Sulphur—
P. Arenas, 87 t. 10 c. £493
Montreal, 240 18 1,039
Havana, 1 9 10
Gothenburg, 110 497
Larnaca, 1 15
Para, 2 1

Sulphuric Acid—
Lisbon, 30 t. 12 c. £128
Durban, 2 cs. 6
A'fagasta, 3 14 45
Bahia Blanca, 7 3
Zungeru, 1 2
Burutu, 3 36

Superphosphate—
Malaga, 395 t. 15 c. £968
Teneriffe, 4 10
Las Palmas, 6 17
G. Canary, 7 24
Las Palmas, 4 17

Tallow—
Calcutta, 10 brls.
La Guayra, 5 cs.
Vigo, 35
Alexandria, 6 cks.
Axim, 12 kgs.
Vigo, 29

Tannic Acid—
Rio de Jan., 5 c. £30

Tin Oxide—
Oporto, 2 c. £20

Turpentine—
Salonica, 5 brls.
Delagoa Bay, 23 dms.
Smyrna, 8

White Lead—
P. Said, 4 cks.
Rio de Jan., 15 brls.
Corfu, 3
Montreal, 6

Venetian Red—
Philadelphia, 75 brls.
Genoa, 20 cks.
Gijon, 20
Hamburg, 40
Montreal, 17 t. 5 c.
Braila, 90 kgs.
Danzig, 100 bgs.
New York, 175 brls.
Rotterdam, 205 pks.

Zinc Muriate—
Gothenburg, 31 t. 3 c. £406

Zinc Oxide—
Corfu, 3 brls.

Zinc White—
P. Said, 4 cks.
Montreal, 4 t. 6 c.

MANCHESTER.

Week ending July 3.

Acetic Acid—
Jaffa, 12 cks.

Ammonium Muriate—
Monastir, 1 kg.

Bones—
Rouen, 267 bgs.

Caustic Soda—
Monastir, 5 dms.
Jaffa, 125

Chemicals (*otherwise unenscribed*)
Antwerp, 5 cks.
Rouen, 2

Coal Products (*otherwise undes.*)—
Philadelphia, 3 cks.

Coal Products—
Aniline Oil
St. Petersburg, 50 dms.

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Coal Products—
Aniline Salt
St. Petersburg, 444 puns.
Creosote Oil
Boston, 350 brls.
P'delphia, 170 cks.
Naphthylamine
Rotterdam, 28 cks.
Germany, 38
Pitch
Tunis, 7 brls.

Copperas—
Alexandria, 49 brls.
Jaffa, 4

Dyestuffs—
Tannin Extract
Montreal, 15 cks.

Flux Skimmings—
Rotterdam, 5 t. 2 c.

Glue—
Boston, 1 ck.
Rotterdam, 24

Linseed Oil—
Beyrout, 28 brls.
Caiffa, 2
Quebec, 2 cks.
Tripoli, 8

Olive Oil—
New York, 50 cs.

Potassium Bichromate—
Hamburg, 4 cks.
Alexandria, 32 brls.

Red Lead—
Quebec, 1 ck.

Salammoniac—
Larnaca, 1 kg.
Monastir, 1 brl.

Salt—
Gothenburg, 100 t.
Rotterdam, 380

Sheep Dip—

Blenheim,	42 dms.
Dannevike,	10
Dunedin,	75
Gisborne,	5 cs. 32
Hamilton,	9
Invercargill,	117
Christchurch,	25
Gore,	55
Napier,	25
N. Oamaru,	120
Palmerston,	14
Wanganui,	62
Wellington,	137

Soap—
Alexandria, 22 cs.
Tantah, 61

Soda—
Rotterdam, 6 cks.

Sodium Bicarbonate—
Jafffa, 6 brls.

Sodium Silicate—
Germany, 18 cks.
Monastir, 10
Sousse, 3

Sulphur—
St. Johns, N.B., 100 bgs.

Turpentine—
Beyrout, 5 brls.

White Lead—
Quebec, 1 ck.

HULL.

Week ending June 29.

Acids (*otherwise undescribed*)—
Fiume, 60 brls.

Ammonium Sulphate—
Stettin, 1,041 bgs.

Antimony (Crude)—
N. York, 225 cks.

Barytes—
New York, 136 cks.

Borax—
Rotterdam, 1 cs.

Caustic Soda—
New York, 100 dms.

Chemicals (*otherwise undescribed*)

Amsterdam	26 cks.	20 dms.	
	2 cs.		
Abo,	3		
Antwrp,	1	2 tcs.	
Bremen,	29		
Bombay,		35 dms.	
B. Ayres,	1	1	
Bari,	10		
Christiania,	8	466 slbs.	
	100 bgs.		
Copenhagen,		40 btls.	
Dunkirk,	10 cks.		
Danzig,	12	22 33 pks. 20 kgs. 30 cs.	
Gothenburg,		608	
Harlingen,		18 dms.	
Konigsberg,	5		
Hamburg,	29	70	
New York,	279		
Palermo,	5		
Rouen,		16 bgs.	
Rotterdam,	11	80 pks.	
Riga,		1 cs.	
Stettin,		10 dms.	
St. Petersburg,		24	
Stavanger,		1	
Trieste,	5		
Wasa,	5		

Coal Products—
Pitch

Rouen,		16 bgs.
Wasa,		119
Antwerp,		783 t.
Boston,	90	
Dunkirk,	2	
New York,	66	
Tar		
Antwerp,	9 cks.	
Christiania,	6	
Copenhagen,	10	
Danzig,	3	
Dunkirk,	10	
Hamburg,	45	
Stavanger,	2	
Wasa,	25	

Colours—
Christiania, 24 cks.
Copenhagen, 13 1 cs.
Danzig, 1

Cottonseed Oil—
Amsterdam, 2 t. 19 c.
Bremen, 1 15
Drontheim, 18
Hamburg, 56 17
Stettin, 22 10

Dyestuffs (*otherwise undescribed*)
Antwerp, 7 cks.
Rotterdam, 9

Linseed Oil—
Alexandria, 1 t. 14 c.
Bombay, 10 14
Copenhagen, 1 4
Christiania, 3
Drontheim, 17
Dunkirk, 6 15
Hamburg, 6 5
Karachi, 12
Stavanger, 10

Manure—
Hamburg, 1,873 bgs.
Venice, 5,080

Tallow—
Bombay, 3 cks.
Christiania, 32

Turpentine—
Karachi, 5 dms.
Rotterdam, 16 cks.
Stockholm, 3
New York, 30

Wax—
B. Ayres, 75 bgs.
Venice, 50

GLASGOW.

Week ending July 4

Ammonium Carbonate—
Bergen, 1 t.
Belgium, 1 3 c. 3 q.

Ammonium Sulphate—
Demerara, 17 t.
Kobe, 101 15 c. 1 q.
Barbadoes, 75 10
Amsterdam, 538 6

Asbestos—
Belgium, £34

Barytes—
Victoria, 5 t. 7 c.

Borax—
Rotterdam, 11 t. 19 c.

Chemicals (*otherwise undescribed*)
Shanghai, £128
Montreal, 35
St. Johns, N'fld., 30

Coal Products—
Carbolic Acid
Canada, £25
Rotterdam, 5 t. 2 c.
Creosote Oil
Christiania, 4 t. 6 c.

Coal Products—
Pitch
La Rochelle, 1,250 t.
Canada, 78
Tar
Durban, £160
Natal, 80
Christiania, 9 t. 10 c.
India, 29
Karachi, 25
Tar Oil
Rouen, £31

Dyestuffs (*otherwise undescribed*)
Sweden, £152

Dyestuffs—
Dyewood Extract
Rotterdam, 1 t.

Ferro Silicon—
Canada, 50 t.

Fish Oil—
Paris, £99
Antwerp, 5 t. 4 c.

Gelatine—
U.S.A., £415

Glycerine—
Victoria, £980

Iodine—
Rotterdam, 3 c.

Linseed Oil—
Trinidad, 17 c.
Shanghai, 1 t. 4
Trinidad, 17

Magnesia—
Paris, 12 c. 3 q.

Manure—
Demerara, 2 t. 8 c.
B. Ayres, 306 18 2 q.

Oxalic Acid—
Bombay, £37

Paraffin Wax—
Demerara, 18 c.
Paris, 11 t. 7
Rouen, 19 3 q.
Bergen, 2 2 16 lb.
Christiania, 11 19 1
Rotterdam, 1 18

Phosphate of Lime—
Canada, 5 t. 8 c. 3 q.

Potassium Bichromate—
Kobe, 12 t. 8 c.
Bergen, 8 6 lb.
Hamburg, 5 8 2 q. 11
Rotterdam, 435 10

Potassium Cyanide—
Chinampo, £1,584
Fremantle, 4,882
Geraldton, 490
Kobe, 130

Red Lead—
Demerara, 1 t. 3 c. 1 q.
Bergen, 1

Soap—
E. London, 4,740 lbs.

Soda—
Rotterdam, 1 c.

Sodium Bichromate—
Canada, 5 t. 6 c. 1 q.
Rouen, 5 1

Sodium Cyanide—
U.S.A., £980

White Lead—
Demerara, 4 t. 5 c. 1 q.

Turpentine—
Rotterdam, 10 brls.

Zinc White—
Penang, 1 t. 13 c. 2 q.

TYNE.

Week ending June 29.

Antimony (Regulus)—
Hamburg, 10 t.

Barium Binoxide—
Hamburg, 26t. 16 c. 1 q. 21 lb.

Barium Carbonate—
Hamburg, 12t. 10 c.

Bleaching Powder—

Portland, Or.,	3 t.	3 c.			
Bergen,	2	3	3 q.	16 lb.	
Rotterdam,	10	14	3	27	
Copenhagen,	28	19	4	28	

Caustic Soda—

Genoa,	113 t.	17 c.	3 q.	22 lb.
Naples,	10	3		4
Antwerp,	14	13		20
Bergen,	2	18		4
Stavanger,	1	14	3	8
Copenhagen,	8	14		12
Odense,	1	3		24

Coal Products—
Pitch
Antwerp, 91 t. 16 c.

Linseed Oil—
Piræus, 12 c. 1 q. 22 lb.

Litharge—

Antwerp,		9 c. 3 q.	18 lb.
Genoa,	1 t.	3	3

Magnesia—
Genoa, 2t. 14 c. 19 lb.

Red Lead—

Genoa,	9 t.	3 q.	
Leghorn,	5	3	18 lb.
Rotterdam,	12 c.		
Stavanger,	5 2	3	14

Soap—
Trondhjem, 2t. 12 c. 18 lb.

Soda—
Bergen, 10 t.
Portland, 17 8 c. 26 lb.

Sodium Sulphate—
Glauber Salts
Portland, 7t. 15 c. 1 q. 16 lb.

Sodium Sulphide—
Genoa, 11 t. 6 c. 12 lb.
Aaborg, 500 7 3 q.

White Lead—

Antwerp,	5 t.	2 c.	1 q.	12 lb.
Copenhagen,	2	19		20
Priæus,		5	1	17

Zinc White—
Piræus, 5 c. 2 q. 23 lb.

GOOLE.

Week ending June 29.

Chemicals (*otherwise undescribed*).
Copenhagen, 10 cks.
Boulogne, 5 15 cs.
Hamburg, 21 20
Rotterdam, 1 10

Coal Products—
Benzol
Rotterdam, 75 dms.
Pitch
Antwerp, 226 t.

Coal Products (*otherwise undes.*)
Boulogne, 78 cks.
Delfzyl, 519
Amsterdam, 171 12 btls.
Hamburg, 22 dms.
Rotterdam, 26

Colours—
Amsterdam, 100 bgs.
Boulogne 11 cks. 2 dms. 30 cs. 11 cans
Copenhagen, 1 pk.
Ghent, 1 t.
Rotterdam, 3

Dyestuffs (*otherwise undescribed*)
Antwerp, 1 ck.
Rotterdam, 9

GRIMSBY.

Week ending June 26.

Chemicals (*otherwise undescribed*)
Hamburg, 5 kgs. 47 brls.
Rotterdam, 34 pks.

Coal Products—
Pitch
Dieppe, 6 brls.

Coal Products (*otherwise undes.*)
Dieppe, 21 brls.

Colours—
Dieppe, 10 brls.
Hamburg, 10 cks. 1 cs.

Dyestuffs (*otherwise undescribed*)
Dieppe, 2 cs.

Manure—
Antwerp, 6 bgs.
Hamburg, 667

Soap—
Hamburg, 50 cs.

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PRICES CURRENT.

FRIDAY, July 12, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	84	0	0
Arsenic, white powdered nett	,,	33	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	17	6
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	50	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native). 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35% nett	,,	4	10	0
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes —				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½	to	1¾
Benzol, 90's	per gallon	0	0	9
,, 50/90	,,	0	0	9½
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	97	10	0
,, Sulphate	,,	31	0	0
,, Oxide (copper scales)	,,	85	10	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine nett	per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	24	0	0
,, Litharge Flake (ex ship)	,,	24	0	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	15	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	6
,, ,, Miscible, 60° O.P.	,,	0	2	1
Oils :—				
Cottonseed	per ton	30	0	0
Linseed	,,	26	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate nett	,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	15	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 1/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton (f.o.r w'ks.)	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, (f.o.r w'ks.)	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, (f.o.r w'ks.)	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, (f.o.r w'ks.)	4	10	0
,, ,, (Soda Crystals)	,, (f.o.r w'ks.)	3	0	0
,, Acetate (ex ship)	,,	16	15	0
,, Arseniate, 45%	,,	28	0	0
,, Borate (Borax), Crystals	,,	15	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton (10 ton lots)	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, (10 ton lots)	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, (10 ton lots)	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, (10 ton lots)	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, (10 ton lots)	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	36	0	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	194	0	0
Zinc (Spelter)	,,	24	10	0
,, Chloride (solution 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	8	0	0

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THE

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AND

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CURRENT TOPICS.

THE RESEARCH STUDENT.

THE importance of scientific research work in its relation to industries generally, and its especial importance to the chemical industry in particular, have been of late so much emphasised that the extremely pertinent remarks of Professor Ayrton, in the Engineering Supplement to *The Times*, call for more than passing attention.

Professor Ayrton observes that research students should always have some idea as to what particular branch of work they intend to take up! "What is it you want to experiment on?" is often the question, and the recipient of the research scholarship replies, "I have not the slightest idea." Professor Ayrton takes a typical case. A student has finished his first year's tenure of a research scholarship. The Professor under whom he has worked is too kind to certify that he has not the necessary intuition for research work, so the scholarship is renewed, and the student is, at any rate, learning how to search for endowment, even if the funds are not being used for the endowment of research! When no more funds are available, the would-be researcher can always become a teacher—his ability to teach will, in the face of his degree and two years of so-called research, never be criticised. The question asked by the University of London, when considering the application of someone to be "recognised as a teacher," is not, "Can he teach?" but, "Has he published anything?" or, "Has he taken a degree?" Finally, having shown himself to be quite incompetent as a lecturer, he sinks into being a crammer, or a compiler of text-books, or a country farmer utterly devoid of interest in modern agricultural methods, in spite of the "capacity for original research" of his early youth. On the other hand, he may, if he possesses the faculty for making other people think him a person of real scientific intuition and attainments, rise to the exalted position of a scientific Sir Joseph Porter, M.A., D.Sc., F.R.S., when, like Gilbert's hero, he can sing, "Of text-book knowledge I acquired such a grip, that they gave me a fat research scholarship. That scholarship did so well for me, that now I am the recipient of an Honorary degree!"

Professor Ayrton goes on to deplore the wasting of endowments that exist for the discovering of men and women with real aptitude for research. The notion that research can only be undertaken after years of preliminary study has been disproved by the inventions of Pacinotti, Gramme, and Tesla; yet the University of London still believes that the truth can only be reached through mathematical gymnastics, never realising that ideas flash on people at strange moments. This, too, in spite of the results—obtained by experiment alone—of Faraday, Darwin, and Huxley. Edison congratulated himself on being no

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mathematician, and Marconi disproved by trial the conventional theory of the transmission of electro-magnetic waves by sending messages between Cornwall and Newfoundland. No University training is necessary for conducting research: the greatest geniuses have followed no set line of thought or action. Research work should never be hampered by red tape, and it is absurd to give a research scholarship to one particular institution every year—as absurd as it would be to expect a commonplace Poet Laureate to produce an epoch-making poem annually, or a particular College to present every March a student worthy of being elected a Fellow of the Royal Society.

The charter of the Imperial College of Science and Technology has just been signed by His Majesty the King. The purposes of this College, as stated in the charter, are "to give the highest specialised instruction and to provide the fullest equipment for the most advanced training and research in various branches of science, especially in its application to industry." How, says Professor Ayrton, will this new Imperial College fare? Will research be interpreted as the scientific use of the imagination, or as the carrying out of stereotyped tests, the routine calibration of apparatus without any attempt to improve the apparatus tested? Will marks and degrees be aimed at, or will the students be trained to be interpreters of nature? Students must commence their researches with clear ideas as to what they are trying to find out. They must possess enough inventive faculty to know how to look for it, merely requiring a hint now and then, and a certain amount of pecuniary aid to save them from burning the chairs and tables to supply fuel for the furnace!

Professor Ayrton thinks that, though some of the governors of this Institution may be ornamental and others merely drags, the majority have the real aims of the College at heart, and will do their best to promote them.

THE NATIONALISATION OF WATER-POWER.

Another subject of interest to chemical manufacturers, though not, perhaps, of near importance to British manufacturers, was also dealt with recently in the Engineering Supplement to *The Times*. A Berlin correspondent mentions the transformation process that is being effected by the electrification of railways, and its bearing on the economic value of native sources of water-power. Up to the present this has been considerably neglected, even in Switzerland, Italy, and Norway, which are countries destitute of coal but rich in water-power.

The great firms engaged in the electrical industries are already taking steps to acquire the control of water-power for the purposes of traction and energy supply. In the search for sources of hydraulic power there is danger of this business falling into the hands of speculators, who will try and raise the prices as high as possible, and, furthermore, there seems a possibility of water rights becoming as formidable a monopoly as electric-power supply. There is a consensus of opinion in Germany—a country not rich in water-power—that the right to its use should be regarded as a Government monopoly. The Bavarian Government has recently announced its claim to all available sources of hydraulic energy in that country, the intention being to conduct experiments with the electrification of all the State Railways. An inventory is being prepared of all available water-powers, and a Commission has been appointed to consider and report on all the projects recently brought forward.

Among the more remarkable of recent schemes are those relating to the water-power of the Abz and Lake Walchen. The first of these relates to the project of the Baden Aniline and Soda Company to erect works for the recovery of nitrogen from the atmosphere. The second scheme is a project to supply power to the State Railways by utilising a fall of 600 feet between two lakes in Upper Bavaria. One engineer estimated that he could obtain upwards of 100,000 h.p. by means of a dam across the river Isar at Wallgau; this scheme has, however, been found to be impracticable. The plans of Herr Schueick, a Darmstadt engineer, are viewed with favour for the power supply from Lake Walchen. He proposes a dam at Wallgau which would raise the level of the lake 31 inches, giving 20,000 h.p.

UNIVERSITY GRADUATES IN TRADE AND INDUSTRY.

It is announced by the Council of the Birmingham University that in connection with the Faculty of Commerce an Advisory Board of business men has been formed. The Council believes that the active co-operation of such a body with the academic staff will tend to bring those who control large undertakings throughout the country into closer touch with the aims of this section of the University. The establishment of a Faculty of Commerce in the University is the first attempt in this country to systemise the preliminary teaching necessary for the higher positions of commercial and financial responsibility.

In the departmental administrations of large concerns, technical skill is so evidently called for that experts with the highest available training are employed in subordinate positions of authority; yet the country has hitherto neglected the training of general managers, who not only engage and superintend these experts, but have, at the same time, the responsibility of buying materials to the best advantage, of deciding as to the extension or replacement of plant, assuring the disposal of the output, and planning financial policy. In some cases departmental managers are thought capable of assimilating any knowledge outside their own special branch, so that, when a vacancy occurs in the post of managing director, it is filled from one of these sources, a state of affairs which it is urged frequently leads to disastrous results. It is not pretended that the training of the University will impart a knowledge which only experience can give, but it is suggested that the curriculum is such as to offer to business men assistants who are something more than raw material.

The course of study extends over three years, and embraces subjects specially selected to bring out the broader qualities necessary in men who aspire some day to fill positions of great responsibility. The new section of the University is expected to do for commerce preliminary work similar to that undertaken for the Army by the Royal Military Academy and the Royal Military College; its graduates will enter upon their careers with an intelligent understanding of the commercial and economic sides of business in general, it is submitted, and should be fitted for the highest posts in any branches of manufacture.

The Council, in appealing for support, point out that those interested in the Faculty can assist its work by (1) bringing the advantage of the training now offered to the knowledge of those, whether themselves engaged in commercial or in professional life, who intend their sons to follow a business career; (2) taking advantage of the material offered by the Faculty by filling positions in their service from among its graduates.

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AN INDUSTRIAL ORDER OF COURAGE.

The recognition of exceptional courage displayed in war is rarely withheld by a nation whose traditions are so essentially war-like as our own ; but the public recognition of bravery when the circumstances are so prosaic and ordinary as those of the coalmine or the chemical works is quite another thing. That a gang of miners should voluntarily risk their lives in an attempt to release their imprisoned mates, under all the awful circumstances following an explosion in a coalmine, is a common occurrence enough ; but that such courage should be recognised at its true worth is specially gratifying to those who are acquainted with the real bravery which is far from an uncommon attribute of even the roughest of industrial workers, and it is with pleasure that we note the institution during the visit of the King to Cardiff, on Saturday last, of an Order for Courage displayed in mines and quarries. In commenting upon this, the *Manchester Guardian* observes that the conception of desert varies, or rather broadens, with the broadening of the polity. " Where the sword rules the only meritorious action is that of the warrior. There have been States where knowledge and wisdom were the better part of public virtue, but the normal course of change is to give a place, usually not a co-equal rank, along with military courage, to political skill, and then to industrial enterprise. The history of a nation is reflected in the qualities which at various periods it formally includes in public virtue. Until Saturday English Orders honoured the courage of the soldier, the skill of the statesman, the enterprise of the captain of industry, and the learning of the man of science. On Saturday they formally admitted the industrial democracy by recognising the patient toil and the self-sacrifice of the workman. The establishment of an Order for brave miners is memorable not because it supplies a means of honouring the valour of labour—that valour is beyond our honouring ; it is its own distinction,—it is memorable as a concrete pronouncement of the widening of the English conception of civic virtue."

DEGREE DAY AT LIVERPOOL UNIVERSITY.

ON Saturday last, which was " Degree Day " at the Liverpool University, honorary degrees were conferred on Mr. E. K. Muspratt, Principal Sir Oliver Lodge, Professor William Ostwald, Sir William Ramsay, and Sir H. E. Roscoe. The fact of the ceremony synchronising with the semi-jubilee of the foundation of University College added to the interest of the occasion, and the Chancellor (Lord Derby) took the opportunity of tracing the growth of the University of Liverpool from its inception.

Professor Harvey Gibson, in presenting the recipients of the degree of D.Sc., said :—" The task that devolves upon me is at once an honourable and an onerous one—honourable, inasmuch as my colleagues on Faculty and on Senate have deputed me to present to you for admission to the degree of Doctor of Science, *honoris causa*, some of the most distinguished scientific men of the day ; onerous, inasmuch as to acclaim any one of them worthily in the time allotted me in which to acclaim them all, would tax powers of analysis and rhetoric far beyond any I possess.

" Merely to mention the name of Principal Sir Oliver Lodge is enough to justify the action of the Senate in proposing to add yet another to the many honorary doctorates he already holds. Were it for no other reason, his past services to University College would entitle him to the highest honour we can confer upon him. It does not depreciate the merits of his successor to say that Lodge founded our School of Physics, and although the coping-stone was placed in position after his departure, when the George Holt Physics Laboratory was erected, he made its erection possible. Though now absent in the flesh, his spirit still hovers over it, animating and stimulating the workers within its walls. Sir Oliver is not merely a historian of pioneers, he is a pioneer himself. His investigations on Hertzian waves and on wireless telegraphy are epoch-making ; he is recognised as one of our leading experts on lightning-conductors and lightning-guards ; indeed, there are few branches of electricity, pure or applied, our knowledge of which Lodge has not substantially extended. Here in Liverpool we remember him as a brilliant teacher and a versatile author and thinker, and we congratulate the University of Birmingham in having acquired as its principal a physicist of the highest rank and a far-seeing and broad-minded administrator. Wherever chemistry is studied and taught, the names of Ostwald, of Ramsay, and of Roscoe are ranked with those of the giants of days gone by—Faraday, Cavendish, and Lavoisier.

Thirteen years ago the scientific world was startled by the announcement that our atmosphere contained a gas other than the three so familiar to every student. " The discovery of argon by Rayleigh and Ramsay recalls the discovery of the planet Neptune by Adams and Leverrier half a century before, for in both cases aberrations in the behaviour of one body led to the suspected existence and finding of another. Ramsay went further, and proved that argon itself had associated with it three other kindred and equally inert spirits, to which he gave the names of neon, krypton, and xenon. I will do no more than merely mention Sir William Ramsay's work on molecular complexes and on the molecular surface energy of liquids, but there is one other epoch-making discovery with which his name must ever be associated. To the joint labours of Becquerel, Lennard, Rontgen, and the two Curies, in the first instance, we owe our knowledge of that wonder of wonders, radium. To Ramsay we owe the discovery of the fact that radium itself decays into a gas identical with the helium locked up in the earth's crust, and determined 25 years ago by Norman Lockyer as present in enormous quantities in the atmosphere of the sun. Twenty centuries before Christ the mythical Hermes Thrismegistus and his alchemical disciples endeavoured to show that it was possible to transmute other metals into gold. Although the claims of the alchemists have not stood the critical tests of the chemistry of the twentieth century of this era, and although he has as yet failed to change the baser metals into that most coveted to-day, Ramsay has at least shown that the transmutation of elements is a scientific fact and not a vain imagining.

" I am at a loss whether to present Sir Henry Enfield Roscoe as a most distinguished scion of a most distinguished and historic Liverpool family ; as a servant of the nation in his capacity as ex-member of Parliament, and as a present or past member of numerous important Royal Commissions ; as an administrator and educationist in his capacity as ex-Vice-Chancellor of the University of London, ex-president of the British Association, and member of the Government Committee on Secondary Education, as well as the founder of the great Chemical School of Owens College, Manchester ; or as an investigator and writer of foremost rank in the domain of chemistry. I compromise, and present him in all four capacities. As the discoverer of the element vanadium, and the investigator of its properties and those of its compounds, he also has added to the number of the known chemical elements that go to make up this planet of ours. His researches on the chemical relations of hydrochloric acid and water and on tungsten and uranium have added to his renown, while his work on the relation between chemical change and the intensity and quality of light, merit for him the title of one of the " pioneers of photo-chemistry." The encyclopædic treatise known to every student as ' Roscoe and Schorlemmer ' stands pre-eminent among text-books of chemistry in this or any other language.

" As Mecca in the focus of Islam, so Leipzig is the Mecca of physical chemistry, and Ostwald is its prophet. On the occasion of Dr. Ostwald's recent visit to this city to co-operate in the opening of the Muspratt Laboratories, now presided over by one of his pupils, he styled himself the ' uncle ' of physical chemistry, and credited the great Swedish chemist, Arrhenius, with paternal relationship. The degree of consanguinity is of his own choosing, but what we stipulate for is that he be regarded as an uncle—not by marriage—but by blood. If to Arrhenius Dr. Ostwald would surrender the parentage of the ionic theory, he cannot dissociate himself from the title of being its apostle and expositor. To him also we owe the apotheosis of the phase rule—that revolutionary concept which seeks to explain the constitution of matter without invoking the Daltonian hypothesis. A disciple, as he claims to be, of the great Faraday, Professor Ostwald will rank in the history of chemistry as no mean rival to his master."

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OBITUARY.

SIR WILLIAM PERKIN.

WE regret to record the death, which took place on Sunday last, of Sir William Henry Perkin, the founder of the coal-tar colour industry. Scarcely a year ago, the jubilee of Sir William Perkin's discovery was the subject of an international celebration, and the death of the famous chemist, following so soon afterwards, will be received with profound regret.

Sir William Perkin was born in London, on March 12, 1838, and was the youngest son of the late G. F. Perkin. Educated at the City of London School, he there made such progress in chemistry that soon after entering Dr. Hofmann's laboratory at the old Royal College of Chemistry, in Oxford-street, he was admitted to the research laboratory, and became one of Hofmann's assistants. The story of his life and of his epoch-making discovery is admirably told in the following interesting notes, which we reproduce from the obituary column of the *Manchester Guardian*.

"Perkin was only eighteen years of age when he discovered the mauve dye, which he proceeded before long to manufacture on a large scale. Sir William has told the story of the disappointment his father felt when he took up chemistry as a profession. His father, who was a builder, wished to make his son an architect. But his disappointment did not prevent the father from risking the capital he had accumulated by a life of industry in building and starting the small mauve works at Greenford Green. The father lived to see the undertaking succeed. The works at Greenford Green, much enlarged from their small beginnings, were sold in 1873.

"Since that time Sir William had mainly devoted himself to scientific research, especially in the artificial synthesis of organic bodies. His work on cinnamic acid has largely helped in the development of the artificial indigo industry, and his discovery of the synthesis of coumarin ranks him as a pioneer in another industry, that of artificial perfumes. The fear Sir William Perkin once expressed that technical work might interfere with or might prevent his following up his scientific researches has proved groundless. His remarkable physico-chemical inquiries show unusual courage, judgment, and resourcefulness in experiment.

"Last year the chemists of the world celebrated the jubilee of Sir William Perkin's discovery of the coal-tar colours. No more proper spot for that meeting could have been found than the Royal Institution, where Michael Faraday had discovered the hydrocarbon benzene—the parent of the coal-tar colours. Sir William was presented with his portrait, and with a bust (both are now being exhibited in the Royal Academy), and at the same time a fund for the endowment of chemical research in the name of Sir William Perkin was placed at the disposal of the Chemical Society. The Hofmann medal of the German Chemical Society was handed to Sir William by Professor Emil Fischer, of Berlin, and the Lavoisier medal of the French Chemical Society was presented by Professor Haller. The honour of knighthood was conferred on Sir William in the same year. Sir William was one of the secretaries of the Chemical Society from 1869 to 1883, and its President from 1883 to 1885. In 1886 he was elected a Fellow of the Royal Society, of which he held the Davy and the Royal medals. When Dr. Edward Schunk's beautiful laboratory was re-erected at Owen's College, to which it was bequeathed, his life-long friend and fellow worker, Sir William Perkin, opened the building, and on the same day the University of Manchester enrolled Sir William among her honorary Doctors.

"Sir William Perkin was twice married. His eldest son is Dr. W. H. Perkin, Professor of Organic Chemistry at the University of Manchester. His second son, Mr. A. G. Perkin, is a research chemist in the dyeing laboratory of the Leeds University, and his third son, Dr. Mollwo Perkin, is also a chemist.

"To tell the story of the origin of the coal-tar colour industry we reproduce a portion of the appreciation of Sir William's work published in the *Manchester Guardian* at the time of the jubilee celebration in July last year:—

"As a boy Sir W. H. Perkin was always interested in mechanical experiments, and some experiments on crystallisation turned his thoughts towards chemistry. . . . At 17 Perkin was promoted to the post of assistant in the private laboratory of Professor Hofmann. Here his duties did not leave much time for original work, so the ardent enthusiast had a laboratory fitted up at home, where he used to pursue his own researches during the evenings and the vacations. It was in this laboratory that the epoch-making discovery was actually made. The chance reading of a 'Report of the Royal College of Chemistry' published in 1849 by Hofmann, in which the artificial formation of quinine was discussed, led him to try to produce it in his laboratory at home. The account of his attempt and his discovery is given us by himself in the 'Hofmann Memorial Lecture,' delivered before the Chemical Society in 1893.

"'As a young chemist,' he says, 'I was ambitious enough to wish to work on this subject of the artificial formation of natural organic compounds. Probably from reading the above (Hofmann's) remarks on the importance of forming quinine, I began to think how it might be accomplished, and was led by the then popular additive and subtractive method to the idea that it might be formed from toluidine.' The idea was first to form allyl toluidine and then oxidise this body to quinine by means of potassium dichromate. 'No quinine was formed, but only a dirty reddish-brown precipitate. Unpromising though the result was, I was interested in the reaction, and thought it desirable to treat a more simple base in a similar manner. Aniline was selected, and its sulphate was treated with potassium dichromate. In this instance a black precipitate was obtained, and on examination this precipitate was found to contain the colouring matter since so well known as aniline purple or mauve and by a number of other names. All these experiments were made during the Easter vacation of 1856 in my rough laboratory at home. Very soon after the discovery of this colouring matter I found that it had the properties of a dye, and that it resisted the action of light remarkably well.' That was the discovery. Looked at in one way it might appear to be the result of chance, but those who have ever performed an oxidation of aniline and know the uninviting black, tarry mass which is produced can only wonder at the genius of a man who saw in such an experiment something interesting. The majority of chemists at that time would have either poured the whole down the waste pipe or got rid of the tar by boiling it with charcoal.

"Perkin believed in his experiments, and in conjunction with his father and brother he started the first works for the production of artificial dyes in 1857. The difficulties were immense. None of the three partners had ever been inside a chemical works, but perhaps this was no drawback, because the plant required was totally unlike anything in use at that time. . . . Nevertheless in six months the dye was produced on a commercial scale. Then, being the first member of a new class of dyes, it required new methods of application to the fibre. The laboratory process was found to give uneven results when used on a large scale. New methods of printing were necessary; new mordants were required. All these defects were remedied, and at length the new dye was launched successfully on its career. Its first name was aniline purple, or Tyrian purple. Afterwards it received the name of mauve. For a long time it was in great demand, but it gradually gave place to more brilliant but less fast colours. Its last use was for the mauve-coloured penny postage stamps of the last reign."

DR. AUGUST DUPRÉ.

The death took place on Monday, of Dr. August Dupré, Chemical Adviser to the Explosives Department of the Home Office since 1873. Dr. Dupré, who was a Fellow of the Royal Society, was born at Mainz, in Germany, in 1835, and was educated at Darmstadt, Giessen, and Heidelberg. In 1864 he became a lecturer on chemistry at Westminster Hospital School. In 1871 he was appointed Chemical Referee to the Medical Department of the Local Government Board.

CURRANT ALCOHOL IN GREECE.—A company has been formed to produce alcohol from the currants obtained by the Government under the retention-tax. The output of the company was as follows:—On June 1, 1906, the deposits contained 156¾ tons of alcohol or 96 to 97°. From June to December, 1906, 357 tons were produced, of which 335 tons were exported. During the same period, 122¾ tons were sold for lighting and heating purposes and 55¾ tons were sold to local merchants. The price of this alcohol from June to November averaged 30 to 32fr. per 100 kilos. (1 cwt. 3 qrs. 24.7 lbs.), f.o.b. Piræus, and from November to January 38fr. cash, without discount. The expected production for 1907 is 5,419 tons at 96 to 97°, of which 2,956 tons will be probably consumed in lighting, heating and in motive power, the remaining 2,463 tons being reserved for exportation. During 1907 the company expects to produce 1,970 tons at another works.

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"COALITE"-"CARBO."

[FROM A CORRESPONDENT.]

THE writer cannot claim to be a chemist, but at the same time he has experimented with coal for the purpose of improving the mechanical strength—chiefly for blast furnace purposes—and also with the view of eliminating, or at any rate materially reducing, the sulphur contents. As far back as 1870 a number of experiments were made with the object of improving the coke produced from Cumberland and North Lancashire coals, and, although upon a small scale, both the mechanical and chemical conditions were considerably benefited.

The results under practical every-day burning in the then bee-hive ovens were uncertain and not satisfactory. Special forms of ovens were made during the experiments, and salt and slaked lime—milk of lime—mixed in varying proportions with crushed coal. During the experiments, owing to inattention of workmen, one of the ovens was allowed to get to a much lower temperature than the other two—there were three in all—the result being that the coke produced in the lowest and slowest temperature was found to be practically smokeless when burnt in the ordinary house fire.

There was no idea then of attempting to procure a smokeless fuel, and it was due only to the remark of a servant girl that attention was directed to the fact that the lowest temperature coke, when used in the household fire, caused less cleaning, that the experimenters obtained another idea, distinct from the one they had in view. The analysis of the semi-coke fuel is practically identical with the "Coalite" and "Carbo" now claimed as smokeless. Patents were applied for and granted, but not having the specifications or numbers at hand at the moment, the writer cannot quote the particulars. Suffice it to say that no practical results came about, although many well-known colliery owners and ironmasters had the matter put before them. At that time the North of England coal, coke, iron, and steel trades were in the hands of men who had little scientific knowledge, and who were more backward in recognising any attempt to improve or to experiment than is now the case—which is saying much. So far as can yet be gathered (without the complete specifications, which are withheld from the public) and which seems *prima facie* suggestive at least of nervousness on the part of the patentee and capitalists chiefly interested in "Coalite"—there is absolutely no difference in any way, either mechanically or chemically, between "Coalite" and "Carbo" and the slow combustion low-temperature semi-coke produced in 1870, from Cumberland and North Lancashire coal, of by no means superior quality!

The probability is that, had "Coalite" been offered to the public in 1870, it would have died a natural death, as did the improved coke then produced. The Patent Office records show many specifications in the direction of "Coalite," but until the "Coalite" specification is open to public inspection comparisons must be deferred.

So far as can be gathered, "Coalite" is neither more nor less than semi-coke, or half-cooked coal. The chemist and geologist can inform us that anthracite and the natural smokeless coal of Wales were produced under conditions materially differing from other coalfields. It is not at all improbable that the anthracites and smokeless coal owe their conditions largely to natural earth pressure, which would produce and conduce to slow heat—to a condition of carbonisation differing entirely from the coalfields of the east coast, the Midlands, and Lancashire. The elimination of the heavy hydrocarbons was by some natural process evolved; or it may be there was less natural "secretion" of the hydrocarbons. We are, it seems, about to be offered a half-cooked coal in place of the raw material, which, so far, is about all we can confidently state; how far the Metropolis will benefit from the burning of "Coalite" and "Carbo" remains to be seen. The scheme has been influentially placed before the public, but certainly there would have been greater confidence, and grounds for greater hope that the smoke nuisance would be "scotched," if not killed, had the complete specifications been boldly made public.

PRESENTATION TO MR. A. M. CHANCE.—Mr. A. M. Chance, the chairman of the directors of Messrs. Chance and Hunt (Limited), of the Oldbury Alkali Works, was the recipient, on June 28th, of two handsome presents from the directors, staff, and workpeople upon the occasion of his recent marriage.

THE FARADAY SOCIETY.

AT the thirtieth ordinary meeting of the Faraday Society, a general discussion on "Hydrates in Solution," took place. Professor S. P. U. Pickering, F.R.S., was in the chair.

After some preliminary remarks by the Chairman, the discussion was opened by Dr. T. Martin Lowry, who read a paper on "The Thermo-Chemistry of Electrolytes in Relation to the Hydrate Theory of Ionisation," by Mr. W. R. Bousfield, M.A., K.C., and himself.

(1.) The process of ionisation of a neutral salt in aqueous solution "*is usually attended with a development of heat*" (Nernst, *Theoretical Chemistry*, 1904, 659), *e.g.*, $KCl \longrightarrow \overset{+}{K} + \overset{-}{Cl} + 250$ cal. (Arrhenius, *Zeit. Phys. Chem.*, 1889, 4. 106). It is pointed out that the decomposition of potassium chloride into molecular potassium and molecular chlorine involves an absorption of 105,600 cal., and that a further absorption must accompany the decomposition of the molecules into atoms. The electrification of the atoms is also probably an endothermic action, and the change represented by the above equation, so far from involving the liberation of 250 cal., must actually involve the absorption of more than 100,000 cal. The process of ionisation must therefore involve some powerful exothermic action not shown in the ordinary scheme, and it is suggested that this is supplied by the combination of the charged atoms or "ionic nuclei" with the solvent to form hydrated ions. (2.) A scheme is given whereby the work done in charging the ions, or in separating ions already charged, may be calculated on the assumption that the ions behave as charged conductors immersed in a fluid dielectric. The values deduced for the energy of electrification or of separation range from about 1,000 to 8,000 cals. per equivalent. (3.) It is pointed out that according to the theory of electrolytic dissociation the heat of formation of a salt in dilute solution is the sum of the heats of formation of the ions. Values are deduced for the separate ionic heats of formation, and a table is given showing with what remarkable accuracy the additive law holds good; this additive relationship, which does not appear in the heats of formation of the solid salts, affords important evidence in favour of the view that the ions exist independently in dilute solutions. (4.) The majority of the heats of formation of the ions are large positive quantities. The energy liberated during the process of ionising an element cannot be due to the disruption of the molecules of the element into atoms, nor to the electrification of these atoms. Both of the above processes appear to be endothermic, and it is again necessary, in order to explain the thermochemical data, to postulate that ionisation is accompanied by some exothermic action not indicated in the symbols—

$$\frac{K_x}{x} \longrightarrow \overset{+}{K} \text{ or } \frac{Cl_2}{2} \longrightarrow \overset{-}{Cl}.$$

This exothermic action is supplied by the combination of the ionic nucleus with the solvent.

Dr. James C. Philip, M.A., Ph.D., D.Sc., read a paper entitled "Influence of Non-Electrolytes and Electrolytes on the Solubility of Gases in Water. The Question of Hydrates in Solution." The author supported the view according to which the diminished power of a solution to dissolve hydrogen and oxygen as compared with pure water is due mainly to the hydration of the solute and the consequent diminution of the "free" solvent. In determining the extent to which any given solute is hydrated, it is first supposed that the standard absorbing volume is, not 1 litre of the solution, but that volume of the solution which contains 1,000 grammes of the pure solvent. In this way values of the average molecular hydration for a number of common salts are obtained. It is found that the average molecular hydration increases with the dilution of the salt solution, and decreases for a given salt solution as the temperature rises.

Dr. George Senter read a paper on "Hydrates in Solution: Discussion of Methods Suggested for Determining Degree of Hydration." It is pointed out in the paper that recent attempts to account for the properties of aqueous solution on the basis of association alone have not only proved inadequate to afford a quantitative representation of the facts, but in some respects do not appear to be even in qualitative agreement with experiment. In forming an opinion as to the relative trustworthiness of different methods which have been suggested for determining the degree of hydration, regard must be had to the following considerations: (1.) Other things being equal, statical methods are more reliable than dynamical ones; (2.) the law of mass action requires that for salts the degree of hydration must increase with dilution

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up to a point beyond which it remains practically constant on further dilution; (3.) if, as is usually the case, hydration is associated with evolution of heat, the complexity of the hydrates must decrease with rise of temperature. All the different methods indicate that the degree of hydration varies with the atomic weight; for example, in the case of the chlorides of the alkalis, the hydration decreaseswith increasing atomic weight of the alkali metals. From a quantitative point of view our knowledge of hydration is much less satisfactory, and the results so far obtained must be regarded as of a preliminary character.

A paper communicated by Dr. Alex. Findlay on "The Stability of Hydrates as Indicated by Equilibrium Curves" was read in abstract by the Secretary.

From a study of the freezing-point curves of concentrated aqueous solutions conclusions have been drawn, more especially by Biltz and by H. C. Jones, with regard to the existence of hydrates in solution. While the qualitative correctness of the conclusions may be accepted, grave doubts arise as to the correctness of the quantitative formulæ assigned by Jones to hydrates of different substances. These doubts are due not only to the fact that the conclusions as to hydration were reached (in so far as the freezing-point measurements are concerned) by means of an unjustifiable extension of van't Hoff—Raoult law, but also to the fact that certain factors, *e.g.*, heat of dilution, were not taken into account. While the study of the equilibrium curve of solutions in contact with ice as solid phase (the freezing-point curve) may, on the basis of certain assumptions, give an indication of the "degree of hydration" of the solute, it cannot enable us to decide as to the particular hydrates present, nor the extent to which these hydrates are dissociated chemically. On the other hand, some insight into the question of the stability of hydrates can be obtained from the study of the equilibrium curves of solutions in contact with the hydrates as solid phase, *i.e.*, what are frequently called solubility curves. When a compound of two components is capable of existing in contact with solution of the same composition as itself, *i.e.*, when it possesses a definite melting point, the equilibrium curve of the two-component system will exhibit an intermediate curve, which gives the conditions under which the solid compound can exist in contact with the liquid solution, or homogeneous mixture of the two components. When the compound undergoes chemical dissociation at the temperature of the melting-point, it is found that the equilibrium curve has a rounded summit, and the greater the degree of dissociation the flatter is the summit of the curve. Conversely the sharper the summit of the curve the less the degree of dissociation. From the appearance of the curve alone, then, some idea of the stability of the compound can be obtained. If, now, we regard the presence of the products of dissociation as causing a lowering of the freezing-point of the pure compound, and if we regard the lowering produced to be in accordance with the van't Hoff—Raoult law, then, from a knowledge of the molecular depression of the compound, it is possible to calculate the course of the freezing-point curve of the compound for different degrees of dissociation. The experimentally determined equilibrium curve is compared with the curves so obtained, and thus an approximate knowledge obtained of the degree of dissociation of the compound. It must be pointed out that this method of determining the degree of dissociation is only an approximate one, for it depends on various assumptions which cannot be regarded as being more than approximately fulfilled. The chief of these assumptions are: (1) the validity of the van't Hoff—Raoult law, (2) the validity of the law of mass action in concentrated solution, (3) the degree of dissociation is independent of the temperature. So far calculations have been carried out only in the case of organic binary compounds; but the method can also be applied to the case of salt hydrates, although in this case the above assumptions are less likely to be fulfilled.

Professor W. A. Tilden, F.R.S., referred to the fact that in crystals it appeared to be the metal only which detained the water of crystallisation. In many cases, such as that of ammonia dissolved in water, where ammonia as such was also present, the hydrate theory could not be adopted as it stood. There was, in fact, no single theory at present able to explain all the phenomena observed.—Mr. Caldwell criticised the various methods used for measuring hydration. In the experiments of Jones, for example, whose method was open to objection, many of the results did not follow what would be expected from the law of mass action. Philip assumed that the dissolution of a gas was mechanical and that of a salt chemical. If that were true a gas of small molecular weight, such as helium, should be readily soluble.—Mr. W. A. Davis said that there were many cases of solution, *e.g.*, in dyeing, which were covered by neither the ionic nor the hydration theory, but in which the process was purely mechanical.—Mr. Fenton said that it was not always very clear what was meant by a hydrate. The methods hitherto employed for studying hydrates were chiefly physical, and the results obtained were capable of many interpretations. The problem should be studied in such a way that specific chemical properties were obtained.

In reply to Dr. H. Borns, Dr. Lowry said he imagined ionisation to be the result of the separate hydration of the ionic constituents of the molecule.

The Chairman thought that the agreement between the heat of formation of a salt in dilute solution and the sum of the separate heats of formation of the ions shown to exist by Mr. Bousfield and Dr. Lowry proved nothing, as the proof involved reasoning in a circle.—In reply, the authors explained that the agreement proved these properties of the ions to be additive, and so gave further support to the dissociation hypothesis.

Continental Notes.

THE use of granular conducting material for heating vessels electrically is finding much favour, both in the laboratory and in the works for small-scale operations, and a short paper by J. Bronn in the *Electrochemische Zeitschrift* for May, in which he discusses the material "Kryptol," will therefore be found interesting.

Other papers in this journal deal with the metallurgy of tin and calcium.

In the *Zeitschrift für Chemische Apparatenkunde* is appearing a long paper by G. Jacob, in which he describes the various calorimeters that have been devised for the determination of the heating power of coal, and the subsidiary appliances that are used in connection with them. Instalments of the work will be found in the issues of June 1, June 15, and July 1.

The issue of June 1 also contains a description of an automatic measuring apparatus for acids, alcohol, and other liquids that must not be exposed to air more than can be avoided. C. Hoffmeister gives an account of an apparatus for extracting solid materials at high temperatures with two immiscible solvents of different specific gravities.

In the issue of June 15, an illustrated account is given of a respirator provided with a supply of liquid air. The reservoir for the air is made in the shape of a knapsack, which is carried by means of two straps that pass over the shoulders; it consists of two parts, the air-container proper, which is next the back, and a breathing bag in two compartments, made of air-tight material. The air-container is filled with ignited asbestos wool, and has a capacity of about 3½ litres of liquid air, which is sufficient to last about two hours. Two flexible tubes connect the face mask with the reservoir; one for the fresh air and one for the expired air. The latter is connected with a tube that passes diagonally through the space for liquid air, so that its heat causes the air to evaporate. In consequence of this arrangement the supply of air automatically adjusts itself. The reliability of the appliance is greatly increased by the fact that there are no valves in it. The expired air is constantly driven out by the fresh supply. It is stated that this respirator, which goes under the name of the "Aerolith," is in use in Westphalian, Belgian, and English coal mines, and has also been adopted by the London fire brigade.

In the issue of July 1, G. de Voldere describes a number of improvements in the Hempel apparatus for gas analysis.

An ingenious pressure regulator for waste steam, made by a firm in Stuttgart, is also described. This allows part of the steam to escape into the air when there is a plentiful supply, but when there is but little it is all caused to pass through the plant where it is to be further utilised, and if it fails altogether, a supply of live steam is automatically turned on. There is also an account of a furnace for burning gypsum.

Reference was made in these "Notes" two weeks ago to the liability of ether to become ignited by means of electric sparks generated by the passage of the liquid through tubes. A further report upon this subject will be found in *Die Chemische Industrie* for July 1, from the pen of Prof. M. Richter, who has made a special study of the subject. That ether may easily become electrified is readily shown by agitating a piece of mohair in it and testing with an electroscope. When tested in this way it is

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found that the ether becomes more highly charged the lower its specific gravity, because the presence of alcohol and water in it causes it to conduct the electricity better. In the case of benzine it has been found possible to entirely prevent danger of this sort by adding 0.01% of magnesium oleate, which makes the liquid conduct sufficiently well. This is not practicable in the case of ether, because the oleate is insoluble, and the addition of this or other matter would make the ether useless for many purposes. The only means that can be adopted, therefore is to connect all parts of the plant to earth. In the case of funnels used for filling carboys or other vessels made of non-conducting material it has been recommended to earth them by means of a chain. But the author does not consider this a good method, as the workman may omit to adopt this precaution; he thinks it better to use funnels also made of non-conducting material, such as glass or stoneware. Carbon bisulphide is an even more dangerous liquid as regards spontaneous electrical ignition than ether, as it readily becomes charged up to more than 10,000 volts. As magnesium oleate is insoluble in this liquid also, it is necessary to adopt the same precautions as in the case of ether.

Indian Notes.

RETAIL price of phosphatic manures is Rs. 1.0 per lb., and gennine guano 6 annas per lb.

In several indigo districts the crops have suffered from the heat, caterpillars, and want of rain.

Cottonseed meal is used as a fertiliser, and it is proposed to exploit this refuse in a practical manner.

The East Indian Railway Company are obtaining a chemist from England for their colliery department; already the Company have an analytical chemist for their workshops and foundries.

Prospecting licenses are being granted in different districts. The Burma Government has issued a mineral prospecting licence over 3,200 acres in the Karen Hills, near Toungoo, known to produce silver and lead.

Salt production in the Punjab during the year 1905-6 was from the Cis-Indus and Kalabagh mines of the Salt Range, which issued 2,590,000 maunds of salt, of which 2,153,000 were from the Khewrah depot; the Mandi mines issued 98,500 maunds, and the Sultanpur works 93,000 maunds.

The question of the standardisation of fertilisers sold in India is one of importance, and is to be considered by the authorities. In Southern India a large collection of samples of mixed, or "patent" fertilisers, and of ordinary fertilisers such as oil-cakes, bone-meals, sulphate of potash, etc., have been obtained and are to be analysed.

India's loss, by the export of raw metalliferous ores, is another country's gain. Thus chromite, a mineral which is now being mined regularly in Baloochistan, at 23s. per ton, fetches treble that sum at American or European ports. This is due to the rudimentary conditions in which the metallurgical industries of India now find themselves.

The values of the imports into India during the month of April (the first month of the financial year), compared with the corresponding month last year, are:—In 1906: Chemicals, dyeing and tanning materials, etc., Rs.22,62,654, and mineral oils Rs.14,63,971. In 1907: Chemicals, dyeing and tanning materials, etc., Rs.32,33,835, and mineral oils Rs.26,46,379. Whilst the values of exports from India during the month of April in each year are:—1906: Saltpetre, indigo, chemicals, etc., Rs.91,49,278, vegetable oils Rs.5,10,947, and manganese ore Rs.7,33,278.: In 1907 Saltpetre, indigo, chemicals, etc., Rs.1,00,02,211, vegetable oils Rs.10,20,719, and manganese ore Rs.10,58,304. Both imports and exports show a marked increase during April of the present year, over the same month last year.

POTASH SALTS.—The admission of the Sollstedt and Deutsch Kali Werke (referred to in our issue of 29th ult.) increases to 37 the number of participants in the German Potash Syndicate. At the beginning of 1902 there were only 20 members, the increase thus being 17 within five years. The "quotas"—ranging from 61.18 thousandths in the case of the Prussian Fiscal Works to 15.60 thousandths in that of the Heldburg Company—have already been considerably cut down, and the process will be continued as the large number of new mines in course of construction reach the productive stage. The fall in potash shares caused by this prospective curtailment has been intensified by the recent falling-off in the Syndicate's sales.

RUSSIAN GOLD AND PLATINUM PRODUCTION.

THE *Viestnik Finanssoff* gives the total production of gold in the Urals in 1906 at 496 poods, and of platinum at 352 poods. The gold production shows a steady decline since 1902, when the production was 534 poods, and the platinum return is the largest since 1903, when it was 366 poods. It was 374 poods in 1902. The platinum mines belonging to Count P. P. Schouvaloff's successors for the first four months of the current year (1907) produced 7 poods, 7 pounds 45 solotniks 52 dolie of platinum against 6 poods 38 pounds 15 solotniks 35 dolie in the corresponding period of 1906. On the other hand, at the mines of Prince S. S. Abemilyk-Lassarieff during the period named the only work done has been preparatory, and such platinum as has been got in the time has been delivered by outsiders and in very small quantities.

The *Permskya Viedomosti* states that for some time the production of platinum has been vigorously pushed in the newly discovered deposit on the River Omutnoi, on the Polevskoi estate near the Systersk Mining Works. About nine pounds of platinum are produced per week, and about 400 hands are employed at the mines. According to the Ekaterinburg press, the Perm platinum producers have been asked to send samples of platiniferous sands to the Geological Survey Department of the United States for purposes of analysis.

The *Torg. Prom. Gazeta* gives some supplementary statistics on Russian platinum production. In addition to the figures quoted of the platinum production at the Schouvaloff mine, the platinum mines of the successors of P. P. Demidoff, Pr. San Donato, for the first four months of the present year yielded 7 poods 9 pounds of precious metal, against 8 poods 3 pounds in the corresponding period of last year. According to the figures of the Russian Customs Department, the export of platinum in the months of January and February of this year declined to 22 poods from 46 poods in the corresponding period of 1906, but, on the other hand, it compares with only 10 poods in the corresponding months of 1905.

NITRATE OF SODA.

THE sailings for Europe from Chilian ports in the first half of July were 66,600 tons, and the total for the whole month is estimated at 112,000 tons, or practically the same as last year. Deliveries are said to have kept ahead of those in the corresponding period, which, of course, means that "invisible stocks" are being piled up, since the agricultural demand is completely at an end. All ports are congested, and Hamburg, the principal one, is apparently unable to take more nitrate for the present, as 7,000 tons have been ordered to Antwerp and Ostend, which on June 30 already had 19,000 tons in stock, compared with 7,675 tons a twelvemonth ago. Rotterdam, although equally over-supplied, has also had to receive another large cargo. United Kingdom ports are in the same position, and the quantity of nitrate of soda "financed" on onerous terms is altogether unusually large. The market is comatose, and while prices are nominally unaltered, considerable concessions would have to be made in order to tempt buyers either on the spot or forward. Quotations are again easier from Chili, at 8s. 10½d. per quintal, f.o.b., with no business passing.

BRITON FERRY CHEMICAL CO., LTD.—The directors have declared an interim dividend of 3d. per share, free of income tax, payable on August 1st to the shareholders on the books of the company on July 13th.

THE RETIREMENT OF PROF. LUNGE.—The *Neuen Zürcher Zeitung*, of the 12th inst., contains an account of the formal leave-taking of Professor Lunge, who has just resigned his professorship at the Zurich Polytechnicum. Professor Lunge's career and work in technological chemistry are too familiar to our readers to call for an elaborate eulogy in these columns. His standard works on "Sulphuric Acid and Alkali," "Coal-tar and Ammonia," and "The Distillation of Coal-Tar," together with his numerous contributions to periodical chemical literature, have amply established his reputation in the chemical industry throughout the world.

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Reports of Companies.

ZINC CORPORATION.

The general manager's report for the half-year ending February 28th, states that Mr. A. L. Quencan, E.M., who was sent out by the directors to investigate the treatment of the company's material, reported, after exhausted investigation, that 1,300 tons treated in the experimental plant had yielded 348 tons of concentrates, with an average per ton of 44% zinc, 8% lead, and 8 ozs. of silver; further, Mr. Quencan reported a second test of 379 tons of tailings, treated for a recovery of 92 tons of concentrates, averaging per ton 43½% zinc, 10% lead, 9½ ozs. silver. With remodelled plant he would guarantee an extraction of 85% of the zinc. For the first treatment Mr. Quencan recommended the combined Potter process, magnetic separation for improvement of the zinc concentrates and separation of lead; he also recommended alterations to No. 2 plant.

Mr. Quencan's recommendations were carried out, and during the period—January 3rd to March 11th—under his direction, 493.3 tons of zinc concentrates were obtained, of a value of 40.1% zinc, 9.12% lead, and 9.75 ozs. of silver. The plant showed a capacity of about 150 tons a day. The value of the product, returning charges and without the magnetic purification concentrates, was about 8s. 6d. per ton of crude tailings; should the magnetic purification be successful the value would increase to 12s. 6d. a ton.

Experimental work, under the direction of Mr. Cole Huntley with the granulation process was started in March. The reconstructed plant, adopting the process to unit, started on April 6th; from then to May 4th, 3,970 tons of crudes were sent to the mill, from which 1,091 tons of concentrates were recovered. These were agreed with the smelters at an average value of 44.9% zinc, 9.6% lead, 10.1 ozs. of silver. The extraction averaged 73% of the zinc contents, the yield per ton of crude tailings being about 18s.6d. As soon as it was seen that a good yield could be obtained by this process, the reorganisation of the plant was put in hand, and pushed ahead as quickly as possible. Not only would the quality of the concentrates and extraction be improved by this new process, but the cost of working would be much less wear and tear, less consumption of chemicals, and a smaller degree of heat was necessary.

SPIES PETROLEUM CO., LTD.

The report of the directors for the year ending December 31 states that the net production of crude oil for the year, after deducting leakage and water, amounted to 6,057,077 poods. The stock on hand at January 1st, 1906, was 145,470 poods, which, with the net production during the year of 6,057,077 poods, and crude oil purchased, 7,000 poods, made a total of 6,209,547 poods. Of this 4,926,854 poods were sold and delivered, and 1,168,607 poods were used for fuel, leaving in stock on December 31st, 1906, 114,086 poods. The decrease of 780,691 poods in the net production as compared with the preceding year is entirely attributable to the effects of the strike, which lasted for 31 days, in the months of June and July. The crude oil sold and delivered as above realised 1,038,465.44 roubles, an average selling price of 21.077 copecks per pood. The net profit for the twelve months was £31,734., to which must be added the balance brought forward from last year, £6,347., making a total balance to the credit of profit and loss account as at January 1st of £38,081. Of this sum the directors have placed to general depreciation of leases, buildings, plant and machinery the sum of £19,000., and to reserve against fire and employers' liability insurance the sum of £2,000., leaving a balance of £17,081., out of which Russian taxes have to be provided. During the year the directors arranged for the acquisition of 90 dessiatines of oil-land in various parts of the Grozny oilfields, and since the close of the year the transfer of the titles to the company has been completed. Owing to the strike, drilling operations could not be commenced upon the new plots until the end of September. A satisfactory production has already been obtained from some of the wells drilled, and as the depth increases it is expected that the results will be still better. The total sum due as purchase-money for the lands bought during 1906, together with buildings and erections thereon, amounts to £63,255., of which £32,139. has been paid to date. The remainder of the purchase-money is due by instalments spread over one year and eight months. The sum of £21,781. was spent during the past year on the equipment and development of the new properties, and during the current year further considerable sums have been expended under the same head. The total amount expended to date on the acquisition, equipment and development of the properties purchased during 1906 exceeds £60,000. In view of the unsettled aspect of affairs at Grozny and of the commitments in connection with the new properties, the directors consider that it is in the best interests of the company that a dividend should not be declared at the moment, and propose to carry forward the balance. As mentioned in the circular to shareholders of January 24th, 60,000 shares, a portion of the unissued capital, have been allotted at par.

ASSAM OIL CO., LTD.

The report of the directors for the year ended December 31st states that the improvement in the main field mentioned in the last report has been continued, and that the directors consider the position in both maintenance and development to be satisfactory and to show good promise for the future. Some of the experimental wells have reached the oils, thus greatly improving the company's position. A great deal of work has been done at the refinery in 1906, enabling the products to be treated by better methods, and the whole process to be carried out in a more economical manner. The boiler stills have been found to be a little behind the other plant, and a small addition has been made, with the result that the capacity of the whole refinery has been appreciably increased. The board stated last year that they looked forward with confidence to the result of 1906. This confidence has, they think, been justified by the profit of £24,652. which the account shows. At the same time, though the profit is a good one, they do not, under present circumstances, feel justified in paying a dividend. They recommend that out of the above profits £17,500. be written off to depreciation account, leaving a balance of £7,152. to be added to the £6,710. brought forward from last year, and making the amount carried forward £13,862.

TYEE COPPER CO., LTD.

The directors' report for the year ending April 30th states that prospecting and developing at the mines have been carried on persistently during the past year, both at the Tyee and X.L. mines. The results, however, up to the present have not disclosed any new ore-bodies, although the general manager in his report, owing to his local knowledge, still maintains a hopeful attitude, and this seems justifiable in view of the large area of the company's property still unexplored. The board recommend a dividend for the year at the rate of 7½% per annum. This dividend will be payable on August 1st to all names standing on the register of members of the company on June 24th. It is a matter of congratulation, at this stage of the company's history, when the present known ore-bodies in the mine are being depleted, that the business in smelting customs ores has satisfactorily increased, and the directors look forward to considerable improvement in this department for the future. This may necessitate some additions to the plant.

NEW CENTENILLO SILVER-LEAD MINES CO., LTD.

The report for the year ended December 31st, 1906, states that the total production of ore was 9,883 tons, as compared with 9,653 tons in 1905. The total reserves were calculated at 9,000 tons on December 31st last, as compared with 9,500 tons on December 31st, 1905. The output for 1906 exceeded that for 1905 by 230 tons, while the reserves were increased by 100 tons. The profit amounted to £34,504., and the directors have transferred £5,000. of this to reserve, and written £8,630. off capital expenditure account. The whole of the fixed dividends on all classes of shares having been extinguished by the payment during 1906 of the 10% accumulated dividends on the ordinary shares outstanding on December 31st, 1905, and the fixed dividends for 1906 having also been paid, as stated above, it has become necessary to deal with the surplus profits available for distribution. The directors now recommend a dividend of 9.97% on the first preference shares, 9% on the second preference shares, and 9% on the ordinary shares. The total amount distributed in dividends out of the profits for 1906 will then be £23,563., of which the first preference shares will have had £3,295. or 21.97%, second preference shares £1,536., or 19%, ordinary shares £11,239., or 15%, as well as £7,492. accumulated dividends to December 31st, 1905, 10%, making 25%. The balance to be carried forward amounts to £5,783.

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SIR OLIVER LODGE AND THE SMOKE PROBLEM.

AT the annual banquet of the Society of Chemical Industry, last week, Sir Oliver Lodge referred to the smoke problem. He described recent experiments in the direction of heating boilers without emission of smoke, and said he was very hopeful of a method recently devised, which proceeded on the right theoretical lines. The method was to be tried at the power station at Bournbrook, and at the same time the ordinary process was to be employed in another boiler with the same fuel and stoking. The main feature of the invention lay in taking the flame along an inner tube of fireclay, where the combustion could be completed, because the walls were red-hot, and these walls radiated heat to the boiler. The flame did not come in contact with the boiler. It was not extinguished, and the smoke was reduced to next to nothing. He emphasised that because he regarded the smokelessness of the air as a most vital matter in the condition of the life of the people, especially in the towns. As long as smoke was found to be necessary for the economical heating of water or metals and other substances, smoke was likely to continue, but if it were found that better results could be obtained by conditions which favoured complete combustion, and at the same time suppressed the smoke, then the atmosphere would begin to get clear. He had been preaching the theory of this for twenty years, and now he began to have hopes of seeing it put into practice.

Referring to Mr. Eustace Carey's presidential address to the members of the Society, Sir Oliver said Mr. Carey had been lamenting the departure of some of our chemical industries to other countries. He had also deplored the fact that institutions for the advancement of research were insufficiently endowed and supported. He (Sir Oliver) felt that, although they at the Birmingham University had received great support in the matter of buildings and equipment, they also wanted support for the students whom they turned out. It was no use a university turning out a number of well-equipped and well-trained students unless they were appreciated by the chemical manufacturers of the country—their future employers. In Germany they were told the manufacturers did realise the value of highly-trained men in industry and had created a demand for them. The Germans did not put men who were capable of real scientific inquiry and discovery to ordinary routine testing. The routine work had to be done, but he took it that organisation made it possible for it to be done by inferior and less trained persons. An appreciation of university training in this country by employers was, he thought, one of the things badly wanted. There were, however, many things about the educational system of this country of great interest, and one was that the technical schools were training men from below. They were training the workmen to become better foremen, to become, as it had been termed, the non-commissioned officers of industry. These men were of the utmost importance, and he thought he saw great signs that they were becoming eager for education. This was a warning to some of the cultured easy-going youths of the middle and upper classes that they would not have it their own way quite so much as they had, and that some of the lucrative appointments would be going to those really keen about education, and not to those just passing examinations because their parents had sent them to places of learning.

RUSSIAN GOLD-SMELTING LABORATORIES CLOSING DOWN.—It is stated that the Russo-Chinese Bank is closing its gold-smelting laboratories in Blagoveschtchensk and Nikolaieffsk on the Amur, because of the losses incurred in connection with these establishments.

THE RUSSIAN CHEMICAL MARKET.—The Odessa chemicals report for the latter half of June is to the effect that the demand was satisfactory, with prices maintained, although not with the previous firmness. English white lead is quoted 6 roubles 5.10 copecks, in three-pood casks; glycerine, 11r. to 11r. 25c.; sulphate of copper, 6r. 80-95c.; Caucasian potash, 2r. 35c.; Saratoff ditto, 2r. 65c.; Russian turpentine, 3r. 30c. to 3r. 40c.; Russian tannin, 38r. to 39r.; and foreign ditto 42r. to 43r. bichromate of potash, 9r. to 9r. 25c., all per pood. There is no special feature reported from *Novo Nikolaieffsk* as to the chemical market there. Sulphate of copper fetches 8r. 50c. to 9r. There is also little to report from St. Petersburg, where recent prices are quoted without special features.

IMPORTS OF METALS AND MINERALS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of metals and minerals imported during the month of June, 1907, as compared with June, 1906:—

ARTICLES.	QUANTITIES. Month of June. 1907.	QUANTITIES. Month of June. 1906.	VALUE. Month of June. 1907.	VALUE. Month of June. 1906.
			£	£
COPPER (regulus and precipitate):				
From Germany ..Tons	12	6	720	354
„ Portugal .. „	30	816	1,650	25,756
„ Spain .... „	1,343	1,357	115,428	85,559
„ U.S.A. .... „	31	1	525	43
„ Peru .... „	497	132	20,207	3,720
„ Chile .... „	453	177	18,295	5,274
„ Other Countries . „	3,975	2,439	174,756	95,960
Total ... „	6,341	4,928	331,581	216,666
COPPER ORE:				
From Spain ....Tons	1,641	349	8,370	1,499
„ U.S.A. .... „	—	—	—	—
„ Chile .... „	2,966	2,121	31,122	22,177
„ Cape of G. Hope .... „	3	—	54	—
„ Australia .. „	246	31	4,036	150
„ Newfoundland .... „	—	2,850	—	5,700
„ Other Countries . „	4,232	1,529	53,389	28,860
Total .. „	9,088	6,880	96,971	58,386
PYRITES of Iron and Copper .....Tons	68,030	57,065	116,411	96,290
*SILVER ORE — Value £.	—	—	208,680	176,461
TIN ORE:				
From S.America, Tons	1,929	1,960	182,147	152,128
„ Other Countries . „	341	457	23,785	17,284
Total .. „	2,270	2,417	205,932	169,412
LEAD (pig and sheet):				
From Germany ..Tons	296	1,311	5,932	22,244
„ Spain .... „	6,440	9,400	131,321	155,266
„ Greece .... „	—	—	—	—
„ U.S.A. .... „	830	818	16,739	13,684
„ Australia ... „	4,259	4,845	85,218	77,124
„ Other Countries . „	1,425	106	28,438	1,686
Total .. „	13,250	16,480	267,648	270,004
QUICKSILVER .....Lbs.	35,710	375,389	3,146	36,358
TIN, in blocks, ingots, bars, or slabs:				
†From Straits Settlements ....Tons	3,240	4,787	604,167	866,563
„ Australia ... „	300	379	56,419	68,281
„ Other Countries . „	253	241	44,070	39,981
Total .. „	3,793	5,407	704,656	974,825
ZINC, crude, in cakesTons	6,628	7,921	159,804	203,347

* Silver Ore includes the value of the Silver in imported Argentiferous Ores and Metals † Including Federated Malay States.

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during June, 1907, as compared with June, 1906:—

ARTICLES.	QUANTITIES. Month of June. 1907.	QUANTITIES. Month of June. 1906.	VALUE. Month of June. 1907.	VALUE. Month of June. 1906.
			£	£
OIL SEEDS.				
COTTON:				
From Egypt .Tons	21,148	13,115	169,565	86,636
„ Other Countries . „	28,435	21,535	158,103	112,794
Total ... „	49,583	34,650	327,668	119,430
FLAX OR LINSEED:				
From Russia .Qrs.	5,038	—	11,147	—
„ U.S.A. . „	5,997	13,573	12,678	28,063
„ Argentine Republic . „	85,076	138,694	182,197	279,655
„ British East Indies „	66,078	59,747	148,648	123,001
„ Other Countries . „	1,555	29,031	3,392	59,362
Total .. „	163,744	241,045	358,062	490,081
RAPE:				
From Russia .Qrs.	—	177	—	262
„ British East Indies „	10,926	15,888	24,127	32,034
„ Other Countries . „	381	570	1,236	1,514
Total .. „	11,307	16,635	25,363	33,810
OILS, REFINED:				
Cocoanut..Cwts.	8,414	14,797	16,444	22,382
Cottonseed Tons	438	1,026	13,712	25,094
Olive.....Tuns	548	597	28,494	26,072
Palm.....Cwts.	3,394	7,616	4,553	8,807
Total Value £	—	—	63,203	82,355
OILS.				
Fish(train,blubber and Sperm) Tuns	1,492	2,838	30,764	46,303
Cocoanut,unrefined .... „	24,005	23,667	44,866	32,755
Olive „ Tuns	1,435	820	60,481	28,242
Palm „ Cwts.	134,656	126,443	172,796	148,466
PETROLEUM:				
Crude ....Glns.	—	150	—	4
Lamp Oils .. „	15,068,269	9,152,255	232,240	165,264
Spirit ..... „	217,269	3,446,296	8,751	94,158
Lubricating Oils ..... „	3,182,321	4,264,565	108,538	136,113
Gas Oil .... „	3,238,829	1,815,076	38,692	17,483
Fuel Oil ... „	2,809,650	—	30,500	—
Total of Petroleum „	24,516,338	18,678,342	419,021	413,022
SEED OIL:				
Cotton-seed Tons unrefined .. „	10	95	226	1,831
Linseed pure „	90	1,092	2,262	22,295
„ not pure „	23	36	514	728
Rape-seed „	442	589	13,494	14,322
Other Sorts „	504	213	13,150	5,929
TURPENTINE Cwts.	23,992	52,767	42,622	105,729
SOAP STOCK „	19,820	4,875	11,832	3,246

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of June. 1907.	QUANTITIES. Month of June. 1906.	VALUE. Month of June. 1907.	VALUE. Month of June. 1906.
			£	£
TALLOW AND STEARINE:				
From France Cwts.	2,668	3,653	5,337	6,388
„ U.S.A. .. „	53,447	58,097	83,264	78,920
„ Argentine Republic „	15,992	14,240	29,333	21,576
„ Australia „	41,002	58,166	70,396	80,274
„ New Zealand „	46,015	58,089	77,450	82,642
„ Other Countries „	30,850	12,601	50,398	17,932
Total.. „	189,974	205,446	316,178	287,732
GUM:				
ARABIC ....Cwts.	13,231	11,222	20,491	14,928
LAC-DYE, SEEDLAC, SHELLAC, and STICKLAC ..Cwts.	5,745	4,497	55,376	41,505
ROSIN ... .Cwts.	91,932	92,911	50,582	46,409

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during June, 1907, as compared with June, 1906:—

ARTICLES.	QUANTITIES. Month of June. 1907.	QUANTITIES. Month of June. 1906.	VALUE. Month of June. 1907.	VALUE. Month of June. 1906.
			£	£
GREASE, TALLOW, AND ANIMAL FAT .. .Cwts.	58,367	60,386	78,674	75,673
OILS, Refined:				
Cocoanut - - Cwts.	807	722	1,548	1,059
Cottonseed - - Tons	1,617	1,549	43,613	31,853
Olive - - Tuns	21	2	1,886	174
Palm - - Cwts.	480	195	825	266
Total. Value £	—	—	47,872	33,352
OILS:				
Cocoanut, Unrefined Cwts.	3,843	4,186	6,365	5,423
Olive „ „ Tuns	—	1	—	41
Palm „ „ Cwts.	460	1,275	719	1,664
OIL, SEED:				
To Germany ....Tons	69	73	1,843	1,515
„ Netherlands „	9	3	203	61
„ Belgium .... „	193	20	4,677	552
„ Austria-Hung. „	8	2	220	45
„ Egypt .... „	171	127	4,222	2,881
„ Brazil .... „	272	212	5,880	4,998
„ British India „	104	46	2,678	1,063
„ Straits Sts. „	39	21	1,121	547
„ Ceylon .... „	6	6	178	147
„ Australia .. „	210	547	5,762	14,079
„ Canada .... „	157	162	3,637	3,352
„ Other Co'tries „	1,161	920	31,862	22,737
Cottonseed Oil, Unrefined .....Tons	—	1	—	19
Linseed Oil:				
Pure ..... „	1,740	1,845	44,845	45,419
Not Pure ..... „	237	167	5,319	3,718
Rapeseed Oil .. „	362	115	10,604	2,385
Other Seed Oils „	60	21	1,515	436
Total .... „	2,399	2,139	62,283	51,977

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Condensation Products of Gallo-cyanides with Amines. Farbwerke vorm L. Durand, Huguenin and Co. 15,138. July 1.
Chlorine and Hydrochloric Acid Process. N. L. G. Whitehouse. 15,140. July 1.
Washing Smoke or Gases. J. Black and A. H. Lennox. 15,172. July 1.
Heating Continuous Furnaces and Kilns. A. Fichet and R. Heurtey. 15,174. July 1.
Blue Colouring Matters. T. R. Shillito. 15,204. July 2.
Soap Manufacture. J. C. S. McLay. 15,213. July 2.
Dyestuffs. F. J. Oakes. 15,228.
Soap Manufacture. G. S. Baker. 15,264. July 2.
Filtration of Liquids. A. J. Bell and P. A. G. Bell. 15,305. July 3.
Compressed Calcium Oxide Tablets or Briquettes. H. Raffel, T. Thomassen, and M. C. Harding, 15,310. July 3.
Antifouling Paint. J. F. den Ouden. 15,339. July 3.
Pyrolingneous Substances. Pages, Camus, and Cie. 15,349. July 3.
Separation of Solids from Liquids. H. T. Durant. 15,350. July 3.
Azoxy and Azo Compounds of the Benzene Series. P. A. Newton. 15,240.
Cement Manufacture. H. G. Barnhurst and J. W. Fuller, jun. 15,434. July 4.
Treatment of Complex Ores Containing Gold. W. MacCowan and R. W. E. McIver. 15,480. July 5.
Filters. H. Hocking. 15,491. July 5.
Regenerative Furnaces. N. Lèbèdeff and B. Pemeranzoff. 15,533. July 5.
Boiler Feed-water Heater. F. H. Addis. 15 535. July 5.
Vacuum Evaporators. The Bradford Dyers' Association. 15,585. July 6.
Heating Liquids. P. T. Arduino. 15,592. July 6.
Brown Dyestuffs. Farb. vorm Meister, Lucius, and Bruning. 15,607. July 6.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Continuous Electrolysis. Rambaldini. 8,039.
Ore Concentration. Sulman and Sulman. 9,981.
Consuming Smoke. Marshall, Hargreaves, and Wilde. 14,975.
Filters. Kiefer. 15,304.
Alumina Compounds. Rinman. 15,590.
Treatment of Tannic Extracts. Dufour. 15,648.
Isobornyl Esters. Weizmann and Clayton Aniline Co. 18,280.
Anthraquinone Series Compound. Imray. 22,155.
Starch. Steffen. 24,035.
Washing Gases. Bachman. 24,148.
Passing Gases into Liquids. Serenyi, Alexander, Jacob and Jacob. 28,393.
Sulphur Colouring Matters. Badische Anilin and Soda Fabrik. 28,578.

1907.

Raising Liquids. Wiart. 2,111.
Explosives. Wessel. 2,286.
Condensation Products from Formaldehyde, Tannin, and Aromatic Mono-hydroxyl Compounds. Hildebrandt. 3,665.
Air-Gas. Keith and Keith. 6,183.
Filtrating Machines. Schlieper. 7,453.
Graphite Manufacture. Acheson. 7,775.
Grinding or Crushing Machines. Abbe. 11,127.
Lubricating Oil from Crude Oil. Ryan and Burke. 11,185.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Water-gas Producers. W. Clark, 53, Chancery Lane, London. (Communicated by the Dellwik-Fleischer Wasserges Ges. m. b. H., 14, New Mainzer Strasse, Frankfort A/Main, Germany.) British Patent, 18,256. August 14, 1906.

This invention relates to a water-gas producer, and has more particularly for its objects to avoid risk of explosion, to cheapen the cost of manufacture, and to render the working of the apparatus more simple than heretofore. The invention more especially relates to producers which work on the Dellwik system of water-gas generation, and which has hitherto been worked solely with compressed air. The producer is, however, worked with "suction air" (this being a feature which has been long known in connection with gas-producers), the plant being provided with a charging device in the form of a coal-feed hopper erected directly upon the producer and the gas main leading from the charging device to a fan. A by-pass pipe for the fan is provided for the purpose of heating up and of keeping the producer hot whilst at rest. The grate which has hitherto usually been employed for such producers is dispensed with, so that the producer charge rests immediately on the producer bottom or rather the resulting layer of ashes and slag. The steam pipe opens into the producer at the top, whilst the gas pipe is led off from the bottom of the producer, and not from below firebars, as heretofore, and discharges into the scrubber, which is arranged at a lower level. Here, solely, a known form of water-seal is provided, such that the issuing gas is able to easily pass into the scrubber, whilst the indrawing of the air when the producer is being blown up for heating, only results in the rise of the scrubber water into the gas pipe. By this means there is provided a general construction which possesses extreme simplicity, coupled with safety in operation.

An Improved Process of Distilling and Carbonising Certain Materials to Obtain Certain By-products Therefrom, and Apparatus for Carrying Out the Same. E. B. Robinson, "The Villa," Hurlet, near Glasgow, and W. C. Edwards, Rockland, Ontario, Canada. British Patent, 24,961. November 6, 1906.

This invention relates to improvements in the process for effecting the distillation or carbonisation or simultaneous distillation and carbonisation of substances such as sawdust, chipped wood, and wood refuse. ¶ The material is distilled and carbonised in a continuously rotating retort while continuously applying heat thereto, and the volatile and solid products are collected separately. The process is carried out in a cylindrical retort supported with its axis slightly inclined and rotated by any suitable means. The volatile products resulting from the operation of the process are withdrawn from the upper end of the retort and the non-volatile products from the lower end. The original specification should be consulted.

Metallurgical and Electrometallurgical Process for the Production of Pure Copper. L. Jumau, 18, Rue Mogodor, Paris. British Patent, 414, 1907. (Dated claimed under International Convention March 20, 1906.)

This invention relates to a process for obtaining pure copper from a solution of copper, which consists in treating a solution with sulphuric acid or a sulphite, separating the precipitate of cuprous sulphite thus obtained, treating part of the precipitate with an acid such as sulphuric acid which cannot form a cuprous salt, mixing the copper precipitated by this acid with the part of the cuprous sulphite which has not been treated with the acid, compressing this mixture into the form of plates on a suitable conducting support, and subjecting these plates as anodes to electrolysis in an electrolytic refining bath.

An Improved Detergent. H. Jackson, 10d, Powis Terrace, Bayswater, London. British Patent, 6,712. March 20, 1906.

The inventor claims:—(1.) A detergent consisting of water containing about 1% of ammonium oleate and free from a substantial excess of ammonia. (2.) A detergent consisting of a solution containing about 1% of ammonium oleate, made by adding oleic acid to water and then introducing ammonia in quantity only sufficient to dissolve the oleic acid. (3.) In washing with the detergent referred to in Claim (1), immersing the goods thereinto at the ordinary temperature.

WILLS.—Mr. Adam Crawford Bealey, J.P., of Manor House, Bury, head of the firm of A. C. Bealey and Son, chemical manufacturers, Radcliffe, who died April 15, left £249,885. The will provides that the executors may continue any charitable subscriptions and make grants to workpeople and servants in the employ of the firm.

ARTIFICIAL RUBIES.—A remarkable performance was given at the London Hippodrome, last week, by a young lady chemist from Vienna. The chemist, Miss Alice Norton, manufactures rubies and sapphires in full view of the audience. Miss Norton takes a quantity of ordinary London clay and places it in a crucible made of magnesium, adding, at the same time, given quantities of chromic acid. A powder, the composition of which is known only to Miss Norton, is thrown into the crucible, and the temperature of 5,000° F. employed first boils the mixture and then bakes it. Within five minutes a mass of quartz is formed that requires a heavy hammer to break. In this mass of quartz a large number of rubies of varying sizes are found. These are perfectly genuine. They will cut glass, and may be put to the severest test a jewel expert can devise.

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Stock and Share List.

WEEK ENDING JULY 17, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Thursday, July 11.	Friday, July 12.	Saturday, July 13.	Monday, July 15.	Tuesday July 16.	Wednesday, July 17.
				CLOSING PRICE DAY PREVIOUS TO					
120,000	1	1	Bell's Asbestos ... ord.	1¼ 1⅜	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞
	Stock	100	Borax Consolidated 4½% deb. stock red.	108 110	109½	109 111	109 111	109 111	109 111
80,000	10	10	Do. ... pref.	11⅛ 11⅜	11¼	11⅛ 11⅜	11 5/16	11⅛ 11⅜	11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ord.	24/6	24/-	24/3 24/6	24/3	24/3 24/6	24/3
1,50 ,000	1	1	Do. ... 5 % c.p.	21/3	21/-	21/- 21/3	21/-	21/-	20/10½
35,000	10	10	British Dyewood ... ,,	4 4½	4 4¼	4 4¼	4 4½	4 4¼	4 4¼
600,000	1	1	British Oil and Cake Mills ... ord.	12/- 12/6	12/- 12,6	12/- 12/6	12/- 12,6	12/- 12,6	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	41/3	41/3	41/3 41/9	41/3 44/9	42/-	41/3
10,000	10	10	Do. ... 6 % c.p.	12 5/16	12 5/16	12 5/16	12 5/16	12 3/16	12 3/16
1,472,154	1	1	Brunner, Mond, and Co. ... ord.	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16	5¼ 5⅜
32 678	10	10	Do. ... 7 % pref.	17 17¼	17 17¼	17¼	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜
96,000	5	5	Bryant and May ... c.p	12½ 13	12½ 13	12½ 13	12½ 13	12½ 13	12⅝ 12⅞
40.000	10	10	Buxton Lime Firms ... ord.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛
352.500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ,,	19/-	19/-	19/3	19/3	19/1½	19/1½
450,000	1	1	Castner-Kellner ... ,,	25/3	25,6	25/3 25/6	25/3 25,6	25/3 25,6	25/3
16,000	5	5	Clayton Aniline ... ,,	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
12,000	5	5	Do. ... 6 % c.p.	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
6,000	10	5	Cleveland Salt ... 6 % m.p.	2½ 3	2½ 3	2½ 3	2½ 3	2¼ 3	2½ 3
20,000	10	10	Crosfield, J., and Sons ... c.p.	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27 6 28 6	27/6 28 6	27,6 28,6	27 6 28,6	27/6 28 6	27/6 28,6
5,000	10	10	Do. ... 6 % c.p.	12 3/16 12 6/16	12 3/16 12 6/16	12 3/16 12 5/16	12 3/16 12 6/16	12 3/16 12 6/16	12 3/16 12 6/16
£15,223,235	Stock	100	Gas Light and Coke Co. ... ord.	94¾	96¾	97	96¼	96 98	97⅛
	10	10	India Rubber Co. ... ,,	15 16	15 16	15 16	15 16	15 16	15⅛
	5	5	Lagunas Nitrate ... ,,	3⅛ 3⅜	3 3¼	3⅛ 3⅜	3⅛ 3⅜	2⅞ 3⅛	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	8	8	8	8	8	8
	5	5	Lautaro Nitrate ... ,,	11¼ 11¾	11¼ 11¾	11¼ 11¾	11⅛	11⅛	10¾ 11¼
200,000	10	10	Lever Bros. ... ... 5 % c.p.	10⅝ 10¾	10⅝ 10¾	10⅝ 10¾	10⅝ 10¾	10¾ 10⅞	10¾ 10⅞
400,000	10	10	Manchester Ship Canal ... ord.	23/6 24/-	23/6 24/-	23/6 24/-	24,-	23/- 24/-	23 9
400,000	10	10	Do. ... per 5 % pref.	32/6 33/-	33/-	32/9	32 3 32/9	33/3	33/-
120,000	1	1	Mandleberg ... ord.	29,9	30/6	30/6 31/-	31/-	30/6 31/-	31/-
185,145	1	1	Mason and Barry ... ,,	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	60/-
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	1/6	1/6	1/6	1,6	1/6	1/6
110,007	10	10	Nitrate Railways ... ,,	12½ 13	12½ 13	12½ 13	12½ 13	12½ 13	12 7/16
228,540	10	10	Nobel Dynamite Trust ... ,,	15⅝	15⅝	15⅝	15⅝	15⅝	15 13/16
	10	10	Do. share warrants	15⅝	15⅝	15⅝	15⅝	15 12/16	15 13/16
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/9	38/9	39/-	39/-	38/9	39/-
	1		Pears, A. and F. ... ,,	30/-	30/-	1⅜ 1½	1⅜ 1½	1⅜ 1½	30/-
70,000	10	10	Pease and Partners ... ,,	12⅞ 13⅛	12⅞ 13⅛	12⅞ 13⅛	12⅞ 13⅛	13 13¼	13 13¼
37,500	16	16	Price's Patent Candle ... ,,	33	33	33	33	33	33
130,000	1	17/-	Pumpherston Oil, Ltd. ... ,,	9½	9¼ 9⅜	9⅜	9⅜	9⅜	9⅜
10,000	10	10	Do. ... 6 % c.p.	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
325,000	5	5	Rio Tinto ... ... ord.	84⅜	84 1/16	81⅝	81⅜	82	82
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	5	5	5	5	5	5
239,479	1	14/2	Sadler and Co. ... ,,	2/9 3/3	2/9 3 3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
200,000	4	4	Salt Union ... ,,	17/-	17/3	17/6	17/- 17/6	17/3	17/6
100,000	6	6	Do. ... 7 % n.c.p.	4 4⅛	4 4⅛	4 1/16 4 1/8	4 1/16 4 1/8	4 1/16 4 1/8	4 1/16 4 3/16
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛	1 1⅛	1 1⅛	1 1⅛	21/9	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1⅛ 1⅜	1⅛ 1⅜	1⅛ 1⅜	1¼ 1½	1¼ 1½	1¼ 1½
	1	1	Schibaieff Petroleum ... ,,	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ...	120	119 121	120¾	121	121	121
45,000	10	10	Steiner, F., and Co. ... 5 % c.p.	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞
625,000	2	2	Tharsis Sulphur and Copper ,,	6¾ 7	6¾ 7	6⅞ 7⅛	6⅞ 7⅛	6¾ 7	6¾ 7
289,313	10	10	United Alkali ... ord.	82/3	83/3	83/3	82/6 83/6	82/6 83/6	82/-
282,524	10	10	Do. ... 7 % pref.	11 11/16 11 13/16	11 11/16 11 13/16	11 11/16 11 12/16	11 11/16 11 13/16	11¾ 11⅞	11⅞
80,000	1	1	United Indigo and Chemical ... ord.	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9
66,666	5	5	Willans and Robinson ... ,,	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝
210,000	1	1	Woolcombers ... ... 7 % c.p.	20/9 21/3	20,9 21/3	20/9 21/3	20/9 21/3	20/9 21/3	21/4½
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.	1/- 2/-	1/- 2/-	1/9 2/-	1/- 2/-	1/- 2/-	1/- 2/-
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,	71/9	71/9	71/9	71/9	72/-	72/-

Institute of Chemistry: July Examinations.—The following is the Pass List of the July examinations:—Of 28 candidates who entered for the Intermediate Examination, the following 22 passed: N. C. Akers, A. D. Black, J. Boyd, J. Brebner, M.A., B.Sc. (Aberdeen), R. Bruce, A. M. Cameron, B.Sc. (Edin.), H. R. Cooper, B.Sc. (Lond.), F. G. Crosse, W. C. Davis, M. C. Fletcher, H. L. Gammon, J. Gibbon, N. McN. Hyslop, R. D. Masson, R. L. Morris, J. W. H. Pattison, A. S. Petrie, O. D. Roberts, W. F. Russell, A. Sandeman, P. A. W. Self, B. Sc. (Lond.), and Miss M. M. J. Sutherland. In the Final Examination for the Associateship (A.I.C.), of 5 examined in the Branch of Mineral Chemistry, 3 passed: William Garsed, William Godden, Assoc.R.C.S. (Lond.), B.Sc. (Lond.), and Eric Hayward; of 2 examined in the Branch of Metallurgical Chemistry, 1 passed: E. B. Naylor, M.Sc. (Manchester); of 5 examined in Organic Chemistry, 3 passed: F. Baker, B.Sc. (Lond.), J. H. Lane, and B. D. W. Lutt; and of 7 (including 1 Associate) who entered in the Branch of the Analysis of Food and Drugs and of Water, including an examination in Therapeutics, Pharmacology and Microscopy, the following 4 passed: R. R. Bennett, F. M. Dyke, B.Sc. (Lond.), W. R. S. Ladell, and D. J. Law, B.Sc. (Lond.).

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NEW YORK PRICES CURRENT.

JUNE 24, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8¾
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¼
„ „ „ Continental	„	0 7¼
Ammonia, Carbonate, lump	„	0 7½
„ Muriate, grey	„	0 6¼
„ „ white electrical	„	0 6¼
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 12½
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 30
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 7¼
Potassium, Bichromate	„	0 8½
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 15
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10½
Sulphur, Brimstone (best thirds)	per ton	22 0

Legal Intelligence.

LIVERPOOL ASSIZES.

CIVIL COURT.

(Before Mr. Justice Lawrence and a Special Jury.)

LEVER BROS., LTD. *v.* THE ASSOCIATED NEWSPAPERS CO.

On Tuesday last, the trial was begun of the action for libel brought by Lever Brothers Ltd., against the Associated Newspapers Company, arising out of statements in the *Daily Mail* and London *Evening News* during the recent attempt to form a combination of soap manufacturers. The case, however, came to a sensational close on Wednesday. When the hearing was resumed, the leading counsel for the defendants announced that they had decided to entirely withdraw the defence. Every imputation which had been made upon Mr. Lever's honour would be unreservedly withdrawn and apologised for, and they were willing to pay substantial damages. After some conversation with counsel for the plaintiff, the damages were fixed at £50,000., and judgment was entered for that amount.

Mr. Justice Lawrence expressed his entire agreement with the course taken.

ZINC CORPORATION, LTD.—The chairman of this company has issued a circular announcing that the head office has been transferred to London, and that the London committee is now the board. The Hon. W. L. Baillieu and Mr. William Clark have resigned from the directorate, and Mr. Robert Skipwith, a partner in Messrs. Chaplin, Milne, Grenfell and Co., and Mr. Henry William Pelham Clinton, a director of the Ivanhoe Gold Corporation, Ltd., have been elected to fill the vacancies. Mr. Hoover, of Messrs. Bewick, Moreing and Co., will arrive in London from Melbourne about July 18th.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, June 24, 1907.

(Rate of Exchange, $4.87½ = £1.)

Nitrate of soda remains weak on spot, and may now be had at $2.50. per 100 lbs., futures from $2.45. up. Sulphate of ammonia varies from $3.05. to $3.10. per 100 lbs. Grey muriate for galvanizers is 6¼c., while white muriate, for electrical purposes, owing to the increased supply, ranges from 5⅞c. to 6¼c. Lump sal ammoniac, good white seconds, is 9¼c. per lb. Lump carbonate of ammonia is steady at 7⅞c. to 8c., and powdered is nominally 1% per lb. Sulphate of copper is now quoted at 7¼c. per lb. by the syndicate, and a little under by outside makers. White powdered arsenic is very dull on spot, at 7¼c. to 7½c. per lb., and futures are offered at 7⅛c. to 7⅜c. per lb. Red Saxony Arsenic is steady at 7½c. per lb. Bleaching powders are unchanged at $1.20 to $1.30 as to make. Alkali is 9½c. per lb., f.o.r. makers' works, for light 58% in bags. Caustic soda, 74%, is $2.05. per 100 lbs., same conditions. Calcined carbonate potash, 80-85% is 3⅜c. to 3⅝c. per lb., and hydrated 4⅛c. to 4⅜c.; contracts over next year are being packed at considerably less than this. Chlorates are unchanged under syndicate control. Bichromate of soda is 7¼c. to 7½c., and potash 8⅛c. to 9c. per lb., freight paid to principal points. Phosphate of soda is unchanged, at $1.85. per 100 lbs. Prussiate of soda is 9⅝c. to 10c., and weak; potash is 16c. per lb., and very dull. Oxalic acid remains scarce at 8⅞c. to 9c. for prompt delivery, and 8½c. to 8¾c. for futures.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols weak, with values given at 8½d. for 90's, and 9d. for 50's. Crude tar, 16s. to 20s. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, London, 26s. 6d., f.o.b., Gas Company, 30s. 6d.; East Coast, 25s. to 25s. 6d.; West Coast, 23s. 6d. to 24s. 6d.; next year, 2s. 6d. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 11½d.; pure, 1s. 8½d. to 1s. 9d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5⅝d.; 60%, 1s. 7½d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5¾d.; 34-35, 5½d. Cresylic, 95%, 1s. 1½d. to 1s. 2d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, £12. 2s. 6d.; Beckton terms, £11. 13s. 9d.; London, outside makes, £11. 17s. 6d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d. to £11. 18s. 9d.; Manchester, £11. 15s.; Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool ordinary, 11s., and refined, 11s. 3d. Official quotations:—Cargoes, off coat or due, 10s. 11½d.; ditto, for prompt shipment, 11s. 3d.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £93. to £93. 10s. cash, and £88. to £88. 5s., three months. Tin: G.M. quality, £183. to £183. 10s cash, and £180. to £180. 10s. three months; English, £186. Lead, soft foreign, July delivery, £20. 15s.; July shipment, £20. 10s.; September, £19. 10s.; English, £21. to £21. 5s. Spelter, ordinary brands, July, £24., ex ship; hard, £20. 5s., f.o.b. Antimony, £43. to £45.; ore, £10. to £10. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 16s. Nickel, £175. to £185. Pig-iron closing prices: Standard, 56s. 1½d. cash, and 56s. 3½d. one month; Cleveland, 56s. 6d. cash, and 56s. 8d. one month.

FERTILISER MATERIALS.

FRIDAY.

There is no new feature to report in the market for either phosphatic or ammoniacal material, there being very little business passing.

The recent values of both Florida and Tunisian phosphate rock are fully maintained, and further transactions for shipment, 1909 and 1910, are reported.

East Indian bone meal remains unchanged, at £5. 2s. 6d. per ton, nett cash, c.i.f. Liverpool, for shipment; and at £5. 7s. 6d. to £5. 12s. 6d. per ton, according to grist, ex store here, on spot.

Nitrate of soda remains quiet but steady, at 11s. per cwt., for ordinary 95% quality, and at 11s. 3d. per cwt. for refined, on spot.

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MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

The market is somewhat quiet, and spot demand is not very active, but, on the whole, there is a fairly steady inquiry and values are well maintained. Caustic soda, unchanged, 70% £9. 15s.; 74% £10. 5s., f.o.b. Liverpool. A good deal of forward business has been done during the past week in bleaching powder, at prices under current rates; spot quotation, however, remains at £4. 10s., softwoods, free on rails. Chlorates are steady at 3½d. per lb. Bichromates unaltered in position or value. Rock sulphur, £4. 10s. on rails, in bulk. Saltcake, firm, at 40s. per ton, carriage paid. Sulphate of copper is in small request just now and price is easy at £31. per ton, f.o.b. Liverpool, for prompt shipment. White powdered arsenic is now coming forward more freely, and quotations are weaker at £32. 10s. Garston, for best brands. Carbonate and caustic potash continue in short supply, and prices are still on a high level. Prussiates quiet at 6d. and 3¾d. respectively for potash and soda. American acetate of lime steady at £8. 15s. ex ship; grey, £12. 10s. per ton. Acetate of of 'soda, £16. 15s., c.i.f. Foreign acetate of lead is a shade lower, white at £32., c.i.f.; brown, £26. 10s. per ton. Oxalic acid still scarce and dear at 4d. per lb.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes steady at 35s. per cwt. Pearl ash quiet, with little offering. Bark also quiet. Berries dull, with no business reported. Logwood and fustic steady, with only a limited supply; cutch unchanged, with little business done. Beeswax: A parcel of Sierra Leone is reported sold at £6. 15s., and Chilian £7. 10s. per cwt. Gun copal: parcels have been sold at auction at 60s. to 71s. 6d. per cwt. Castor oil quiet, at 3¾d. for good seconds Calcutta, on spot, and 3¾d. per lb. for July-August shipments; first pressure French, 3¾d. to 3¾d.; second pressure 3¾d. Gambier: block steadily held at 18s. 6d. on spot, and 18s. for May-June, June-July, and July-August shipments; cubes, 28s. to 28s. 6d. on spot, and 27s. 6d. per cwt. for July-August. Shellac quiet: T.N. orange, on spot, 209s.; 205s. for August, and 195s. for October shipment. Glucose: American liquid, 43%, 10s. 6d. on spot; and 8s. for July shipment. American powdered starch, 10s. on spot, and 9s. 6d., c.i.f., for shipment; pearl, 9s. 4½d. on spot, and 9s., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 81s.; 95%, 79s; Tartaric acid, English, on spot, 11¾d.; foreign, 11¼d. Citric acid: English, 1s. 11½d.; foreign, 1s. 11¼d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

Palm oil in fair demand, sales including Grand Bassa and Dixcove on spot, £27. 10s.; Accra, on spot, £28. 10s.; July-August, £28. 12s. 6d.; Qua Eboe, July, £29. 12s. 6d.; Old Calabar, July, £29. 10s.; July-August, £29. 5s.; Emoe, July, £30. 5s., and July-August, £30.; Lagos, July, £30. 5s., and July-August £30. 5s.; Half Jack and Grand Bassam, July, £28. 5s. to £28. 10s.; Hard oils, near and July, £28. 10s., and July-August, £29. 10s., and August £29. 10s.; Benin, July, £29. 5s., and July-August £29. 10s. to £29. 12s. 6d.; Soft oils July, £29. 10s., and July-August, £29. 5s. to £30., and August £29. 10s. Olive oil firm, at 37s. to 38s. 10d. per tun, c.i.f. Linseed oil firm at 26s. 6d. to 27s. per cwt. for Liverpool makes in export casks. Cottonseed oil steady, at 31s. 6d. to 32s. per cwt., for Liverpool makes in export barrels. Rosin: 11s. 9d. for common; 11s. 10½d. for F; 12s. for G; 12s. 3d. for H; 12s. 6d. for I; 13s. 6d. for K; 14s. 3d. for M; 15s. 6d. for N; 16s. for WG; and 16s. 6d. for WW. Tallow steady at 30s. 6d. to 33s. 6d. for for North American; South American mutton, 34s. 4½d. to 34s. 6d. per cwt., c.i.f.; and South American beef 34s. 1½d. to 34s. 4½d., c.i.f. Petroleum firm at 6¾d. for Russian and Roumanian, and 6¾d. to 7⅞d. for American refined oils. Petroleum spirit steady, at 1s. 0¼d. to 1s. 3d. for American on spot. Turpentine steady at 43s. 3d. per cwt., on spot.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 10s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—The continued heavy arrivals of linseed have had a depressing effect upon the market for oils, and the prospects are still of larger supplies from South America and India. Refined cottonseed oil is affected the other way, a heavy shortage in the American crop and short supplies being likely to affect the market here, and to result in higher prices for future than present quotations. Amongst the principal imports here to date, as against the same period a year ago, are:—Wheat, 2,125,440 qrs., against 2,153,071 qrs.; flour, 104,535 cwts., against 109,983 cwts.; linseed, 307,738 qrs., against 285,322 qrs.; rapeseed, 47,288 qrs., against 41,025 qrs.; cottonseed, Egyptian, 119,891 tons; other kinds, 93,967 tons, against 103,702 tons and 74,054 tons respectively. Oilcake, 17,050 tons, against 24,761 tons; hemp, 77,080 cwts., against 101,005 cwts.; olive oil, 3,108 tuns, against 2,643 tuns; tar, 2,118 brls., against 1,912 brls. Amongst the weekly imports are lard, 4,366 cwts.; margarine, 870 cwts.; sugar, 23,132 cwts.; colours, 1,719 pkgs.; wool, 49,272 lbs.; hides, 485 cwts. Exports: Oil, 9,742 cwts.; colours, 2,016 pkgs.; chemicals, 2,961 pkgs.; cotton oil closes firm at 29s. naked, spot; July-August, 29s.; September-October, 27s. 9d.; November-April, 23s. 6d.; barrels, £1. 7s. 6d. and casks £1. per ton extra. Cottonseed, firm, but quiet, spot, £8. 5s.; July, £8. 3s. 9d., buyers; August, £8. 5s.; October, £7. 7s. 6d.; November-January £7. 5s., sellers. Exports of cottonseed oil for the week have been: Germany 100 tons, Holland 10, Norway 1, Sweden 4, total 115 tons. Linseed oil, quiet and lower, 24s. 7½d. naked spot; August, 24s.; September-December, 22s. 9d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week: 3 tons Denmark, 6 Germany, 1 Holland, 4 Norway, total 14 tons. Linseed market slow, La Plata, 43s.; July-December 43s. 1½d.; August-September, 43s. 7½d.; new crop, December-January, 41s. 9d. Turpentine steady, spot, 42s. 6d.; July-December, 43s. 7½d.; September-December, 44s.; January-April, 45s.; Russian lower at 21s. 6d., business done. Rosin, firm, 11s. 3d. upwards, according to trade; olive oil firm £42.; castor oil unchanged; cod oil, £16. to £19.

CAKES.—Fresh business, quiet, with prices unchanged.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

Production of chemicals, owing to the Glasgow Fair holidays, is almost wholly stopped, and full resumption will not be reached for a week to come. Business transactions, however, are already beginning to assume some form, and though no great bulk is passing, the tone in the ordinary lines is fairly good, with prices on the whole well maintained. Sulphate of ammonia for spot business (no movement in forward) is about last week's position. Sulphate of copper is on a very uncertain market, owing to the fluctuations of the metal; the tendency to-day is to the fall. Mineral oils and paraffins are unchanged, and a good body of business is passing; whale oils on Glasgow market are on a range of 18s. to 25s., black to pale; Menhaden, 20s.; Newfoundland cod, £19.; pale seal, £25.

Chief prices current are:—Alum (in lump) £5. 5s. to £6. nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s. nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b., Glasgow; bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b., Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16.; and boracic acid, £25., nett, Glasgow; caustic soda, white, 76%, £10. 10s.; 70-72%, £9. 15s.; 60-62%, £8. 15s.; and cream, 60-62%, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace) 2¼d., naked, f.a.s., Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¼d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6½d.; ordinary sorts, 6d. and 5¼d., open market prices for spot business at Glasgow and other big centres; ditto (lubricating) 805°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; and 860-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42., and £40. less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s. nett Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £30. 17s. 6d. to £31., less 5% Liverpool, prompt.

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TYNE CHEMICAL REPORT.

THURSDAY.

Market quiet with no material change in quotations. Soda crystals continue in steady demand locally at £3. 2s. 6d. per ton, gross weight. Caustic soda, 70%, £9. 15s., and 76-77%, £10. 10s. per ton. Bleaching powder, £5. to £5. 5s. per ton. Sulphur unchanged, at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett, do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton; nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market rather quieter; the prices still continue firm; loading turns for gas and steam coals are rapidly filling up for two or three weeks ahead. Coke is also very steady, and the output is well taken up. To-day's quotations:—Best Northumbrian steam, 15s. to 15s. 6d. per ton; second qualities, 14s. 3d. to 14s. 6d. per ton; Northumbrian small coals, 10s. to 10s. 6d. per ton; best gas coals, 14s. 6d. to 15s. per ton; Durham bunker coals, 12s. 9d. to 13s. per ton; good coking coals, 13s. 6d. per ton; household coals, 15s. to 17s. per ton; foundry coke, 24s.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Drms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending July 6.

Acetic Acid—

Norway,	18 cks.	R. Waters
Germany,	79 pks.	Weber, Smith & Hoare,
,,	170 crbys.	F. A. Tye
,,	39	Brummerstaedt Co.
France,	5 t.	J. Harrison
Norway,	47 pks.	Weber, Swift's & Hoare
Holland,	36 cks.	R. W. Greeff
,,	25 pks.	W. H. Muller
,,	23 cks.	Little &
,,	25 brls.	&
,,	100 crbys.	Johnston
Germany,	4 bskts.	Van Oppen Co.
Canada,	9 dms.	W. H. Muller

Acetone—

Germany,	£250	F. A. Tye
,,	400	Field, Hickman
U.S.A.,	35	L. & I. D. Jt. Co.
A.Hun.,	2,400	P. F. Knowlden
Belgium,	160	

Alumina—

Holland,	£100	Taylor Bros.
France,	3 t.	E. C. Powell & Co.

Alumina Sulphate—

Holland,	£250	Ohlenschlager Bros.
,,	45	Little & Johnston

Ammonium Fluoride—

Germany,	£93	Argo S.S. Co.

Ammonium Oxalate—

Germany,	£125	J. Barber

Antimony Ore—

Chile,	80 t.	H. R. Merton & Co.
,,	75	H. Grey, Jnr.
N.S.W.,	40	H. R. Merton & Co.
China,	10	Carter, Paterson & Co.
Belgium,	2	H. Lewis
E. Indies,	8 c.	H. Grey, Jnr.
N.S.W.,	23	A. Gibbs

Antimony Ore—

China,	35	Shanghai Trading Co.

Argols—

Spain,	90 cks.	94 brls. B. Jacob
Italy,	409 bgs.	,,
Spain,	191	Thames S. T. & L. Co.

Arsenic—

Portugal,	£470	Coverley & Westray
,,	330	Charles & Fox
Victoria,	800	W. & S. Bowditch
Holland,	510	F. Claydon

Barytes—

Belgium,	99 cks.	Felton & Crepin
,,	19	200 bgs. W. Harrison
Holland,	121	Felton & Crepin
,,	51	Taylor Bros.
,,	100	W. H. Muller & Co.
,,	40	Morris, Ashley
,,	40 bgs.	S.E. & C. Rly.
Belgium,	250	G. Farmiloe & Son
,,	100	G. G. Blackwell
,,	174	Taylor Bros.
Holland,	40 cks.	S.E. & C. Rly.
,,	52	W. Harrison & Co.

Bismuth—

Germany,	3 t.	Argo S.S. Co.

Bleaching Powder—

Germany,	31 t.	J. M. Steel & Co.

Bog Ore—

Germany,	1,050 t.	Walker, Howard & Co.
Belgium,	104	T. Mark & Co.
Holland,	246	W. Hawkins & Co.

Bromine—

Germany,	40 cs.	A. & M. Zimmermann

Calcium Carbide—

France,	74 t.	J. Harrison

Camphor—

France,	79 cs.	L. & I. D. Jt. Co.
Germany,	15	,,

Caoutchouc—

Germany,	5 c.	W. H Smith & Sons.
,,	3 t. 6	Prop. Hay's Wf.
,,	7	Hale & Sons
,,	2 16	Wallace Bros.
,,	3 6	Clark, Smith & Co.
E. Indies,	1	Lewis & Peat
,,	4 1	Prop. Hay's Wf.
Straits.	9 5	Props. Bull Wf.
,,	14 2	E. Boustead & Co.
,,	1 14	Props. Bull Wf.
,,	7	L. & I. D. Jt. Co.
,,	13	Lewis & Peat
,,	4 17	Prop. Hay's Wf.
,,	18	M. P. Evans & Co.
E. Indies,	2	Props. Bull Wf.
,,	2 8	W. H. Smith & Sons
Ceylon,	4	Hoare, Wilson & Co.
,,	1	Dunlop Bros & Co.
France,	1 14	A. Hartrodt
,,	5	Props. Bull Wf.
U.S.A.,	8	Lewis & Peat
,,	2	Steebel Bros.
,,	14	Major & Field
,,	1 18	Props. Bull Wf.
Holland,	8	Prop. Hay's Wf.
Belgium,	1	P. & O. S. N. Co.
Natal,	8	J. T. Rennie & Sons

Castor Oil—

Belgium,	10 cks.	J. L. Lyon & Co.
France,	12 cs.	Lucas & Spencer's Wf.
Italy,	20	Litchfield & Soundy

Caustic Potash—

Germany,	97 dms.	J. M. Steel
,,	40	,,

Carbon Black—

Belgium,	3 cs. 7 pks.	J. Cockerill Line
U.S.A.,	100	L. & I. D. Jt. Co.
Germany,	50 brls.	Prop. Hay's Wf.

Chalk Franch—

Holland,	£198	T. H. Lee
France,	10 t.	G. F. Gerhardt
,,	35	Harrison & Co.

Chemicals (*otherwise undescribed*)

Holland,	£337	T. H. Lee
,,	140	B. & F. Wf. Co.
,,	102	Muller & Co.
,,	80	W. Smith
,,	5	Hernu, Peron & Co.
,,	17	Van Dam & Co.
Norway,	62	W. Smith
Germany,	6	J. Cockerill Line
,,	411	A. Jones
,,	181	T. H. Lee
,,	7	Prop. Hay's Wf.
,,	218 t.	Odams Manure & Chemical Co.
,,	3	T. H. Lee
,,	14	Collyer
,,	354	A. & M. Zimmermann.
,,	108	Argo S.S. Co.
,,	176	A. & M. Zimmermann
,,	33	L. & I. D. Jt. Co.
,,	5	Argo S.S. Co.
,,	121	T. H. Lee
,,	93	A. & M. Zimmermann
,,	19	L. & I. D. Jt. Co.
,,	47	Argo S.S. Co.
,,	12	Lavington Bros.
,,	110	W. Batchelor
,,	1	T. H. Lee
,,	1	A. & M. Zimmermann
France,	8	Mory & Co.
,,	77	,,

Chinchona Bark—

Holland,	81 brl.	Robinson, Roberts & Co.
Peru,	46	H. Schroeder & Co.

Citrate of Lime

Italy,	£1,200	B. Jacob & Sons
,,	1,978	Thames S. T. & L. Co.
,,	940	J. W. Cook

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Citric Acid—
Holland, 10 kgs. F. C. Devon
France, 4 cks. Kirkpatrick, Barr & Co.
Germany, 15 L. & I. D. Jt. Co
France, 2 20 kgs. B. & F. Wf. Co.

Coal Products—
Aniline
Belgium, 31 pks. J. Cockerill Line
Germany, 29 L. & I. D. Jt. Co.
,, 5 J. Cockerill Line
,, 9 L. & I. D. Jt. Co.
Holland, 2 cks. Van Dam & Co.
Carbolic Acid
Holland, 50 cks. J. Owen
Canada, 19 dms. Withy & Co.
Naphthaline
Belgium, £10 J. Owen
Pitch
Holland, 25 brls. London Oil Storage Co.
Belgium, 200 bgs. J. Owen
Tar
Sweden, 50 brls.
N. Russia, 411 J. Damschewsky
Denmark, 5 M. Dk. Co.

Copper Ore—
N.S.W., 78 t. J. W. Cook & Co.

Cottonseed Oil—
U.S.A., 35 brls. Weber, Smith & Hoare

Cream of Tartar—
France, 4 cks.
Holland, 28 A. & M. Zimmermann.
France, 44 B. & F. Wf. Co.
,, 8 20 kgs. B. & F. Wf. Co.
,, 25 W. C. Bacon & Co
,, 40 F. C. Devon & Co.
, 1 15 B. & F. Wf. Co.
,, 5 F. C. Devon & Co.
,, 12 40 W. C. Bacon & Co.
,, 4 B. & F. Wf. Co.

Dextrine—
Germany, 5 t. H. Johnson, Son & Co.
,, 8 Bennett's H'lage Co.

Dyestuffs—
Divi Divi
E. Indies, 103 brls. Leach & Co.
Extracts (otherwise undescribed)
Denmark, 1 brl. Pickfords, Ld
Canada, 154 Boutcher, Mortimore & Co.
U.S.A., 36 pks. W. Davis
Indigo
E. Indies, 20 chts. L. & I. D. Jt. Co.
Myrabolans
Italy, 2,215 bgs. E. J. Winser & Co.
Belgium, 403 Juell & Cain
,, 403 E.J. Winser & Co.
,, 229 J. W. Cook & Co.
E. Indies, 1,286 pkts. H. Grey, Jnr.
,, 868 bgs. France, Fenwick & Co.
,, 2,000 1,000 pockets. E. J. Winser & Co.
Myrabolan Extract
E. Indies, 447 cs. Dalton & Young
Oakwood Extract
France, 550 cks. L. J. Levenstein & Sons
Quebracho Extract
France, 50 cks. J. Greig
Sumac
Italy, 200 bgs. L. & I. D. Jt. Co.
Tanners' Bark
Natal, 4 t. C. S. Lovell & Sons
,, 6 H. Johnson, Sons & Co.
S. Australia, 25 J. Phillipps
Belgium, 9 Juett & Cain
Natal, 80 Blackfriars L. & C. Co.
,, 367 J. T. Rennie & Sons
East Cape, 81 Page, Son & East
Natal, 390 J. Rennie & Sons
N. Zealand, 9 Beresford & Co.
Belgium, 12 Juett & Cain
Cape, 12 H. J. Perlbach

Dyestuffs—
Tannin Extract
Canada, 121 cks. Hoare, Wilson & Co.
France, 50 brls. Miller's Tan Extract Co.
E. Indies, 202 cs. C. H. Hopwood
Turmeric
Italy, 138 bgs. G. & H. Green
E. Indies, 51 S. Figgis & Co.
,, 15 Perkins & Homer

Farina—
Holland, 2 t. J. Barber & Co.
Germany, 10 2 c. Bennett's Haulage Co.
Holland, 4 19 Fellows, Morton & Co.
,, 5 J. Barber & Co.

Formaldehyde—
Denmark, £30 Windscheugl & Co.
Germany, 24 T. H. Lee
Holland, 75 R. W. Greeff

Gelatine—
Holland, £73 Robinson, Roberts & Co.
France, 61 Mory & Co.
Belgium, 18 Atkins & Nisbet
Germany, 10 Argo S.S. Co.
,, 132 L. & I. D. Jt. Co.
Holland, 26 W. H. Muller
,, 16 T. H. Lee

Glucose—
Germany, qty.

Glue—
Holland, £31 W.H.Muller & Co.
,, 180 Van Dam & Co.
,, 24 O. Murray & Co.
,, 55 J. Barber & Co.
,, 7 Robinson, Roberts & Co.
,, 46 Hernu, Peron & Co.
U.S.A., 117 W. Davis
N. Russia, 250 J. Spurling
,, 27 Hernu, Peron & Co.
,, 21 Van Dam & Co.
Germany, 20 Prop. Hay's Wf.
,, 60 Craven & Co.
,, 50 L. & I. D. Jt. Co.
Norway, 116 M. D. R. Co.
,, 51 W. J. Davis
France, 154 J. Harrison
,, 172 G. T. Seymour & Co.
,, 10 T. M. Duche & Sons
,, 357 Bennett S.S. Co.
,, 86 Davis, Jones & Co.
Belgium, 218 Leach & Co.
,, 7 J. Cockerill Line
,, 488 T. M. Duche & Sons
Holland, 50 O. Lechla
Germany, 173 London & Rhine S. Office
Denmark, 7 United S. Co.

Glue Stock—
S. Aust., 1 t. 15 c. Beresford & Co.
Victoria, 1 5 Anning & Cobb
E. Indies, 5 Humphrey & Co.

Glycerine—
Victoria, £471 H. Hill & Sons
Holland, 45 J. Barber & Co.

Gold Concentrates—
W. Aust., £100 G. Smith & Sons
Port E. Africa, 4,123 W. Hildred

Gold Ore—
Holland, 12 t. M. H. & J. E. Matthews

Kainit—
Germany, 216 t. Lawes' Chem. Manure Co.

Lactic Acid—
Germany, 5 cks. T. H. Lee

Lead Acetate—
Germany, £175 J. Barber & Co.

Lead Salts—
France, £54 Argo S.S. Co.

Linseed Oil—
Germany, 115 brls. C. H. Hopwood & Co.
,, 87 Produce Brokers Co.
Holland, 114 Goodlake & Nutter
,, 258 cks. Robinson, Roberts & Co.

Linseed Oil—
France, 157 dms. Knowles, Spencer & Sons
Belgium, 90 brls. London Oil Storage Co.
Holland, 166 Knowles, Spencer & Sons

Lithopone—
Holland, 16 cks. F. T. H. Nye
Belgium, 6 Felton & Crepin
,, 40 J. L. Lyon & Co.
Holland, 50 Felton & Crepin
Germany, 20 M. Ashby
Holland, 5 W. H. Muller & Co.

Magnesite—
Holland, £25 Phillipps & Graves
,, 33 W.H.Muller & Co.
,, 70 Barr, Moering & Co.
Germany, 64 Argo S.S. Co.

Manganese—
Belgium, 12 t. Union Ltge.Co.
Germany, £130 L. & I. D. Jt. Co.

Manure—
France, 2 t. Bennett S.S. Co.
,, 2 Hopcroft & Broadwater

Mineral White—
France, £20 Blackwell, Sons & Co.

Molasses—
U.S.A., £726

Ochre—
France, 147 cks. J. D. Hewitt & Co.

Olive Oil—
France, 16 gals. Stockwell & Co.
,, 70 bls. B. & F. Wf. Co.
Belgium, 1 t. Litchfield & Soundy
Spain, 56 gals. H. & G. Dutfield
Belgium, 8 J. Cockerill Line
France, 156 Hernu, Peron & Co.
,, 189 4 t. F. Boehm
,, 20 T. Trapp & Sons
,, 220 1 L. & I. D. Jt. Co.
Italy, 35 Nicholson's Wvs., Ld.
,, 5 1 Crosse & Blackwell

Paraffin Scale—
U.S.A., 483 t. Anglo Amer. Oil Co.
Germany, 32 F. Tucker

Paraffin Wax—
U.S.A., 12 t. 17 c. H. Hill & Sons
,, 25 L. & I. D. Jt. Co.

Pearl Ash—
France, £110 Beresford & Co.

Phosphates—
Belgium, 150 t. M. Isaacs

Phosphate Rock—
Algeria, 800 t. J. B. West & Co.

Plumbago—
Ceylon, 18 brls. G. R. Haller
,, 32 Litchfield & Soundy
,, 178 Thredder, Son & Co.
Germany, 5 cs. Lovell & Sons
,, 11 cks. R. Ulrich
Germany, 17 Thredder, Sons & Co.
Italy, 100 bgs. J. B. Galloway

Potassium Bicarbonate—
Holland, 10 cks. W. H. Muller & Co.
,, 17 A. & M. Zimmermann
,, £145 Van Dam & Co.

Potassium Carbonate—
Germany, 20 cks. Prop. Hay's Wf
France, 18 J. Barber & Co.
Germany, 6 cs. ,,

Potassium Chlorate—
Sweden, 24 cks. G. Boor & Co.
France, 14 R. Bell & Co.
,, 14 J. Harrison

Potassium Cyanide—
Germany, £272 Pickfords, Ld.

Potassium Iodide—
Japan, £367 Nippon Yusen Kaisha
,, 368 F. Lambert
,, 567 L. & I. D. Jt. Co.
,, 367 ,,

Potassium Muriate—
Japan, 1,000 bgs. Bessler, Waechter & Co.

Potassium Nitrate—
Germany, 10 t. P. Hecker & Co.

Potassium Oxalate—
Holland, 10 cks. W. H. Muller & Co.

Potassium Permanganate—
Germany, 60 kgs. Petri Bros.
,, 60 L. & I. D. Jt. Co.
,, 28 cks. C. Zimmermann & Co.

Potassium Prussiate—
Belgium, 5 cks. J. Harrison

Potassium Sulphate—
Germany, 100 bgs. Charles & Fox

Quicksilver—
France, 16,950 lb. L. & I. D. Jt. Co.

Quinine—
Germany, 5,000 ozs. S. Figgis & Co.
Holland, 15,000. J. Barber & Co.

Red Lead—
Holland, 30 cks. Felton & Crepin
,, 40 Burrell & Co.
,, 20 J. L. Lyon & Co.
Germany, 32 J. D. Budd
,, 97 Randall Bros.

Ripolin—
Holland, 26 cs. Phillipps & Graves

Rosin—
France, 50 brls. Watt & Sons
Germany, 2 M. Dk. Co.
Portugal, 140 Juett & Cain
U.S.A., 1,000 Vokins & Co.
,, 2,250 Rosin Turp. Import Co.
Holland, 2 cs. W. H. Muller & Co.
Holland, 5 Van Dam & Co.

Salicylic Acid—
Holland, 10 cs. Hernu, Peron & Co.

Salt—
Germany, £10 London & Rhine S. Office

Saltpetre—
Germany, 35 t. 3 c. P. Hecker & Co.

Scheelite Ore—
N. Zealand, 6 t. Shaw, Savill & Co.

Silver Concentrates—
P. E. Africa, £1,472 W. Hildred

Soap—
U.S.A., £747 W. Davis
,, 195 Powell & Co.
,, 6 Meadows & Co.
,, 200 Amer. Exp. Co.
Germany, 509 London & Rhine S. Office
Holland, 333 W.H.Muller & Co.
France, 23 B. & F. Wf. Co.
,, 26 Mory & Co.
,, 16 Litchfield & Soundy
,, 50 D. & W. Gibbs
Italy, 63 Pronk, Davis & Co.
,, 15 Nicholson's Wvs., Ld.

Soap Powder—
Germany, £509 London & Rhine S. Office
U.S.A., 10 Lunham & Moore

Soap Stock—
Belgium, £140 H. Levin

Soda—
Germany, 40 t. 9 c. Typke & King
,, 11 T. H. Lee
Holland, £102 W.H.Muller & Co.
Germany, 121 T. H. Lee
Belgium, 16 Leach & Co.
,, 6 J. Cockerill Line

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Soda—
Norway, £62 W. Smith
U.S.A., 400 B. & F. Wf. Co.
Holland, 12 t. W. H. Muller & Co.
,, 63 Little & Johnston
,, 43 J. Barber & Co.
Belgium, 10 J. Harrison
,, 10 Henderson, Craig & Co.
,, 7 10 c. Leach & Co.
,, 2 E. Wood
,, 2 Burgoyne & Co.
,, 3 5 G. W. Sheldon & Co.
A. Hung., 5 ,,
France, 22 5 A. C. Hitchcock
,, 16 15 C. E. Wood
Germany, 3 M. Dk. Co.

Stearine—
Belgium, 6 bgs. Price & Co.
,, 6 cks. G. S. N. Co.
Holland, 25 brls. W. H. Muller & Co.
France, 150 bgs. H. Hill & Sons
Belgium, 63 ,,

Superphosphate—
Belgium, 50 t. Anglo Cont. Guano Wks.

Tallow—
N. Zealand, 242 cks. Thornett & Fehr
,, 360 J. Owen
,, 136 Bk. N. Z.
,, 366 Goad, Rigg & Co.
,, 100 Dalgety & Co.
,, 93 W. H. J. Alexandre
,, 151 L. & I. D. Jt. Co.
,, 14 G. R. Haller
,, 36 Flack, Chandler & Co.
,, 30 Phillipps & Graves
N.S.W., 60 Cuthbert, Hall
,, 165 Clyde Shipping Co,
,, 5 J. Greig
,, 20 E. L. Amnoot
,, 105 Bessler Waechter & Co.
S. Aust., 221 Thornett & Fehr
,, 10 Flack, Chandler & Co.
Bermuda, 44 Prop. Towers Bridge Wf.
S. Aust., 222 Phillipps & Graves
Victoria, 128 E. L. Annoot
Belgium, 58 G. H. Chippingdale
France, 12 bgs. H. Hill & Sons

Tartaric Acid—
Holland, 10 kgs. Kirkpatrick Barr & Co.
Italy, 4 cks. B. & F. Wf. Co.
Holland 3 ,, ,,
Italy 100 ,, ,,
France 8 ,, ,,
Holland 12 ,, ,,

Thorium Nitrate—
Germany, £423 T. H. Lee
,, 7,355 Argo S.S. Co.

Thymol Iodide—
Germany, £35 L. & I. D. Jt. Co.

Tin Ore—
Chile, 60 t. H. Grey, Jnr

Turpentine—
U.S.A. 795 t. 4 c. 50 brls. Ldn Oil Storage Co.
N. Russia, 121 brls. ,,
,, 156 United S. Co.
,, 153 London Oil Storage Co.
Berlin, 41 Deutsche Bank
France, 100 J. Watt & Sons

Ultramarine—
Holland, 8 cs. W. H. Muller & Co.
,, 5 cks. W. Harrison
Germany, 6 6 Argo S.S.Co
Holland, 5 A. G. Soutter & Co.
,, 4 Robinson, Roberts & Co.
Belgium, 2 J. Harrison

Ultramarine—
Holland, 4 cks. W. H. Muller & Co.

Wax—
Germany, 51 pks. London & Rhine S. Office
,, 60 Wallace Bros.
,, 7 Clarke & Smith
,, 228 T. H. Lee
,, 2 Craven & Co.
,, 2 Mayer & Co.
,, 10 Weber, Smith & Hoare.
,, 32 Prop. Hay's Wf.
,, 15 L. & I. D. Jt. Co.
,, 10 G. H. Green
,, 93 P. J. Johnson
,, 5 Props. Bull Wf.
,, 6 Skilbeck Bros.
France, 12 L. & I. D. Jt. Co.
S. Aust., 5 Union Bk. of Aust.
Natal, 27 Rennie, Sons & Co.
Italy, 4 Nicholson's Wvs., Ld.

White Lead—
Holland, 100 cks. T. & W. Farmiloe
,, 93 Taylor Bros.
Germany, 5 Argo S.S. Co.
,, 52 Taylor Bros.
,, 62 cs. Spies, Bros. & Co.
Belgium, 31 J. L. Lyon & Co.
,, 47 T. & W. Farmiloe
France, 50 brls. J. Watt & Son

Wolfram Ore—
N.S.W., 1 t. A. Gibbs

Zinc Oxide—
Holland, 208 brls. M. Ashby
,, 150 Taylor Bros.
,, 50 cks. F. T. H. Nye
,, 200 Litchfield & Soundy
Germany, 100 Burrell & Co.
,, 50 M. Ashby
Belgium, 100 brls. ,,
,, 2 J. Harrison

Zinc White—
Holland, 3 cks. Felton & Crepin
,, 10 W. H. Muller & Co.
France, 4 G. F. Symons & Co.
Germany, 125 brls. Spies, Bros. & Co.

LIVERPOOL.

Week ending July 4.

Aluminium—
Havre, 60 sks. Cunard S.S. Co.

Ammonia Saltpetre—
Rotterdam, 19 cks.

Ammonium Nitrate—
Hamburg, 15 dms.

Antimony—
Valparaiso, 74 sks. J. Garregorri

Antimony Ore—
Mollendo, 203 sks. Hainsworth, Watson, & Co.

Argols—
Oporto, 55 cks. 466 bgs.

Arsenic—
Oporto, 93 cks.

Asbestos—
Genoa, 17 pks.
Antwerp, 5 cs.

Barium Sulphate—
Antwerp, 20 bgs. Fletcher & Co.
,, 47 cks.

Barytes—
Rotterdam, 100 bgs.
Antwerp, 70 cks.

Beeswax—
Hamburg, 22 cs.
Valparaiso, 194 sks.
Hamburg, 5

Benzoic Acid—
Hamburg, 5 kgs.

Boiler Disincrustant—
Amsterdam, 5 cs.

Bones—
B. Ayres, 347 bgs.

Borate of Lime—
A'fagasta, 411 sks. Borax Consolidated Co.
Mollendo, 1,758 ,,

Burnt Ore—
Lisbon, 80 t.

Carnauba Wax—
Hamburg, 10 bgs.

Castor Oil—
Marseilles, 65 cs. 66 brls.

Ceresine—
Hamburg, 60 bgs. 5 bls.

Chemicals (*otherwise undescribed*)
Boston, 204 bxs. Ceissel & Co.
,, 204 cs.
Bordeaux, 50 cks.
Hamburg, 10
Dunkirk, 222
Rouen, 20 Co-op. W'sale Soc., Ld.

Citric Acid—
Rotterdam, 8 cks.
Marseilles, 6
Bordeaux, 4

Coal Products—
Alizarine
Rotterdam, 2 brls.

Copper Ore—
Lisbon, 112 bgs.
St. Nazaire, 82
Callao, 663 sks. Steinhardt Walker
A'fagasta, 279 t. 18 c. Banco Aleman Trans.
,, 265 Woodgate, Sons & Co.

Copper Precipitate—
Lisbon, 219 bgs. 164 cks.

Cream of Tartar—
Marseilles, 60 brls. 35 cks.

Dried Blood—
B. Ayres, 500 bgs. Nelson & Sons
,, 1,924

Dyestuffs—
Chestnut Extract
Brindisi, 100 brls.
Cochineal
Teneriffe, 16 bgs. Hitch & Co.
Las Palmas, 10 Yeoward Bros.
Cutch
Rangoon, 100 bxs.
Gambier
Amsterdam, 242 bls.
Singapore, 84 bgs. R. & Y. Henderson
Hem'ock Bark Extract
Halifax, 55 cks. Boutcher, Mortimore & Co.
Myrabolans
Bombay, 1,182 bgs. Graham & Co.
,, 320 Sassoon & Co.
,, 1,130
Oak Extract
Fiume, 485 brls.
Sumac
Palermo, 500 bgs.
Tannin Extract
Bordeaux, 317 cks.
Marseilles, 200

Farina—
Rotterdam, 50 bgs.

Ferro Silicon—
Christiania, 4 cs. B. & Griffin C. I. Co.

Fish Oil—
Seattle, 344 brls.

Flux Skimmings—
Barcelona, 32 pks.

Formaldehyde—
Stettin, 3 brls.

Glue—
Marseilles, 10 cks. 20 bls.
,, 25 Grove Chemical Co.

Gluestock—
Hamburg, 4 bls.
Marseilles, 1,002 bgs.

Horn Piths—
Antwerp, a qnty.
B. Ayres, ,, 99 bgs.

Iodine—
Valparaiso, 61 kgs. Gibbs & Sons

Lactic Acid—
Rotterdam, 11 cks.

Litharge—
Rotterdam, 29 cks.

Lithopone—
Rotterdam, 240 cks.
Antwerp, 20

Magnesite—
Hamburg, 134 bgs.

Manganese Ore—
Marmagoa, 1,650 t.
Porman, 3,230
Tjilatjap, a qnty.

Mineral White—
Bordeaux, 492 bgs.

Molasses—
Danzig, 10 brls.

Oleine—
Marseilles, 10 cks.

Olive Oil—
Boston, 185 brls.
Genoa, 85 cs.
Bordeaux, 114
Marseilles, 2 cks. 220
,, 8 L. & Y. Rly. Co.
,, 251 Alexander & Co.

Paraffin Wax—
Baltimore, 330 brls.

Phosphorus—
Montreal, 150 cs.

Plumbago—
Colombo, 30 brls.

Potash—
Montreal, 9 brls.
Portland, 17 cks. Isham & Isham
Hamburg, 10
New York, 9 pks.

Potash Lye—
Hamburg, 20 dms.

Potassium Permanganate—
Hamburg, 45 cks.

Red Lead—
Rotterdam, 63 cks.

Rosin—
Hamburg, 13 cks.
Bordeaux, 337

Rubber—
Pernambuco, 8 bls.
Hamburg, 10 155 pks.
Manaos, 630 cs.
Para, 642
Montreal, 9
Maceio, 15 bgs.
New York, 49
,, 14 Brandon Bros.
Burutu, 32 cks.
,, 1 305 The Niger Co.
Lagos, 3 Miller Bros. & Co.
,, 2 pks. Paterson, Zochonis & Co.
C. Coast, 2 Miller's, Ld.
,, 5
,, 1 African Assocn.
Sekondi, 1 Miller's Ld.
Conakry, 9 Soc. Gen. de Co.
Antwerp, 17 bgs.

Saltpetre—
Hamburg, 4 cks. 135 bgs.

Scale Wax—
Baltimore, 125 brls.

Silica—
Antwerp, 20 bgs.

Silver Ore—
Callao, a qnty.
Salaverry, 25 bgs. Grace Bros. & Co.
Mollendo, 820 sks. Graham, Rowe & Co.

Soap—
Boston, 10 cs. J. Thompson
Bari, 832
Portland, 10
Marseilles, 50 J. T. Smith
,, 369
Amsterdam, 1

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Soap Powder—
Rotterdam, 2 crts.

Soapstock—
New York, 300 brls.

Soapstone—
Genoa, 100 bgs.

Sodium Sulphide—
Hamburg, 25 cks.

Starch—
Rotterdam, 22 cs.
Hamburg, 72
Antwerp, 140
Ghent, 69 Fletcher & Co.
Dunkirk, 240
Amsterdam, 80

Stearine—
Boston, 72 trcs.
Rotterdam, 4 bls.
Antwerp, 76 bgs.

Tallow—
New York, 59 trcs. Co-op. W'sale Soc., Ld.
" 365 Swift & Co.
" 898
Boston, 327 300 brls.
B. Ayres, 80 556 hf-pps.
Seattle, 200
Tacoma, 200 100 brls.

Tartaric Acid—
Bordeaux, 4 cks.
Marseilles, 7 15 brls.
Bari, 17

Tin Concentrates—
Seattle, 13 dms.

Tin Ore—
Hamburg, 7 cks.
A'fagasta, 4,278 sks. Gibbs & Sons
" 686 bgs. Avelino Aramayo & Co.
" 3,319 Titley & Co.
" 1,720 Ldn. City & Midland Bank
" 369 Penpoll Tin Smelt Co.

Turpentine—
Bari, 29 brls.

Ultramarine—
Rotterdam, 24 cks.

Wax—
Rangoon, 760 bgs.

White Lead—
Rotterdam, 90 cks.

Zinc Dust—
Stettin, 11 cks.

Zinc Oxide—
Rotterdam, 2 brls.
New York, 150
Antwerp, 56

MANCHESTER.

Week ending July 6.

Acetate of Lime—
Boston, 331 bgs.

Beeswax—
Boston, 20 cs.

Bone Ash—
Hamburg, 4 cks.

Calcium Carbide—
Christiania, 100 dms.

Castor Oil—
Antwerp, 41 brls. Fletcher & Co.

Caustic Potash—
Dunkirk, 9 dms.

Ceresine—
Rotterdam, 10 bgs.

Chalk—
Rouen, 9 cs.

Chemicals (*otherwise undescribed*)
Treport, 39 cks.
Rotterdam, 68 14 brls.
Hamburg, 21

Chromic Acid—
Hamburg, 3 cks.

Coal Products—
Alizarine
Rotterdam, 217 cks. & a qnty.
Aniline
Rotterdam, 43 cks. 1cs. 78 pks.
Paranitraniline
Rotterdam, 4 cks.

Coal Products—
Pitch
Hamburg, 1 brl.

Colours—
Hamburg { 38 cks. 10 cs.
R'tterdam { 13 20 bgs. and a qnty.
Treport, 10

Dextrine—
Stettin, 200 bgs.
Rotterdam, 100

Dyestuffs—
Indigo Paste
Rotterdam, 70 cks. 1 cs.
Sumac
Antwerp, 10 cks.
Tannin
Hamburg, 18 cks.

Farina—
Stettin, 50 bgs.
Rotterdam, 275
Hamburg, 182

Felspar—
Christiania, 1 bg.

Gas Oil—
Philadelphia, 3,034 g.

Gelatine—
Hamburg, 5 cs.
Rotterdam, 2

Glue—
Antwerp, { 46 bls. 20 bgs.
Hamburg, 100
Treport, 23 20 cs.

Lactic Acid—
Rotterdam, 2 brls.

Lead Acetate—
Rotterdam, 17 cks.

Litharge—
Rotterdam, 54 cks.

Lithopone—
Rotterdam, 8 cks.

Oxalic Acid—
Hamburg, 33 cks.

Phosphate—
Antwerp, 17 brls.

Potash—
Treport, 10 cks. 16 dms.
Hamburg, 37 20

Potash Lye—
Hamburg, 30 dms.

Potassium Chlorate—
Treport, 84 cks.

Potassium Permanganate—
Hamburg, 31 cks.

Potassium Prussiate—
Hamburg, 3 cks.
Antwerp, 3 cs.

Rosin—
Skutskar, 6 brls.

Salammoniac—
Rotterdam, 27 cks.

Salt—
Hamburg { 150 t. 5 cks.
Rotterdam, 6 37 bgs.

Salt (Waste)—
Hamburg, 200 t.

Silicon—
Treport, 28 cks.

Soap—
Rotterdam, 4 cks.
P'delphia, 20 bxs.
Boston, 16 cs.

Soda Crystals—
Antwerp, 24 cks.

Sodium Acetate—
Antwerp, 36 cks.

Sodium Arseniate—
Antwerp, 50 kgs.

Sodium Chlorate—
Treport, 28 cks.

Sodium Nitrate—
Rotterdam, 5 brls.

Starch—
Antwerp, 286 cs.
Dunkirk, 550
Hamburg { 40 bgs. 50 cs.
Rotterdam, 55

Sulphur—
Catania, { 742 bgs. 235 cks. 373 brls.

Tartar—
Hamburg, 4 cks.

Tar (Wood)—
Skutskar, 62 brls.

Ultramarine—
Rotterdam, 4 cs. 49 pks.

Wax—
Hamburg, 1 ck. 10 bgs.

Zinc Bisulphite—
Rotterdam, 1 brl.

Zinc Oxide—
Antwerp, 10 brls.

HULL.

Week ending July 6.

Acetic Acid—
Rotterdam, 20 blns. Hull & N. S.S. Co.

Asbestos—
Rotterdam, 10 bls. Hull & N. S.S. Co.
Antwerp, 100 bgs. Wilsons & N. E. R. S. Co.
" 100

Barytes—
Amsterdam, 99 cks. Hull & N. S.S. Co.
Rotterdam, 86 "
Antwerp, 89
" 420 bgs. Wilsons & N. E. R. S. Co.

Chalk—
Dunkirk, 3 cks.

Chemicals (*otherwise undescribed*)
Rouen, 18 pks. Wilson, Sons & Co.
Marseilles, 48 "
Talke, 5 cks. Veltmann & Co.
Rotterdam, 12 Hull & N. S.S. Co.
Christiania, 4

Coal Products—
Alizarine
Rotterdam, 5 cks. Hull & N.
20 brls. S.S. Co.
" 19 pks. H. & B. Rly. S.S. Line
" 13 cs. "
Aniline
Rotterdam, 581 pks. Hull & N. S.S. Co.
Tar
Libau, 77 brls.
Tar Oil
Rotterdam, 80 Hull & N. S.S. Co.

Colours—
Talke, 8 cks. J. Good & Son
Antwerp, 12 Wilsons &
56 pks. N.E.R.S. Co.
Rotterdam, 154 Hull & N. S.S. Co.
" 2 cks. H. & B.
2 cs. Ry. S.S. Line
Boston, 300

Dyestuffs—
Aniline Dye
Rotterdam, 31 cks. H. & B.
4 cs. Ry. S.S. Line
Sumac
Palermo, 500 bgs. Wilson, Sons & Co.

Farina—
Amsterdam, 100 bgs. Hull & N. S.S. Co.

Ferro Chrome—
Dunkirk, 49 cks.

Glue—
Dunkirk, 10 bls. Wilsons & N. E. R. S. Co.

Infusorial Earth—
Stavanger, 22 bgs. Wilson, Sons & Co.

Linseed Oil—
Antwerp, 6 brls. Wilsons & N. E. R. S. Co.
Ghent, 28 dms. "
Amsterdam, 19 cks. Hull & N.
128 brls. S.S. Co.

Olive Oil—
Leghorn, 160 brls.
Marseilles, 14 cks.

Plumbago—
Hamburg, 16 cks.

Potash—
Antwerp, { 54 cks. Wilsons & N.E.R. S. Co.
Dunkirk, 4 30 dms.
Hamburg, 21 Wilsons &
5 dms. N.E.R.S.Co.

Rosin—
Bordeaux, 10 cks. W. Moran & Co.
" 26 Hanger, Watson & Harris

Soap—
Rotterdam, 4 brls. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 110 bgs. Wilsons & N. E. R. S. Co.

Starch—
Antwerp, 96 cks. Wilsons
200 cs. & N.E.R.S.Co.
Bremen, 695 Veltmann & Co.
Ghent, 79 Wilsons & N. E. R. S. Co.

Tallow—
Boston, 220 brls. Wilson, Sons & Co.

Tartaric Acid—
Genoa, 8 cks. Wilson, Sons & Co.

Tin Oxide—
Rotterdam, 12 cks. Hull & N. S.S. Co.

Ultramarine—
Rotterdam, 21 cks. Hull & N. S.S. Co.
Bremen, 4

White Lead—
Rotterdam, 73 cks. Hull & N. S.S. Co.

Zinc White—
Rotterdam, 30 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending July 11.

Acetic Acid—
Antwerp, 12 cks. 30 crbys.
Rotterdam, 2

Barium Sulphate—
Antwerp, { 500 brls. 64 cks.

Barytes—
Rotterdam, 4 cks.

Bog Ore—
Delfzyl, 172 t.

Castor Oil—
Antwerp, 93 brls.
Marseilles { 66 20 cs.

Chemicals (*otherwise undescribed*)
Rouen, 10 cks.
Rotterdam, 8 pks.
Marseilles, 90 bgs.

Citric Acid—
Marseilles, 6 cks.

Coal Products—
Alizarine
Rotterdam, 13 cks. 87 pks.
Aniline
Rotterdam, 5 pks.
Paranitraniline
Rotterdam, 10 brls.

Colours—
Ghent, 1 brl.
Rotterdam, 199 pks.
Hamburg, 17 cks.
Marseilles, 22 cs.

Copper Ore—
P. Arenas, 1,034 bgs.

Cream of Tartar—
Valencia, 29 cks.
Marseilles, 15

Dyestuffs—
Myrabolans
Bombay, 1,287 bgs.
Tannin
Rotterdam, 1 ck.

Farina—
Delfzyl, 1,866 bgs.

Ferro Silicon—
Antwerp, 32 cks.

Glucose—
New York, 60 brls.

Glue—
Rouen, 6 bls.
Antwerp, 5 bgs.
Hamburg, 89

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Glue—
New York, 227 brls.
Linseed Oil—
Rotterdam, 27 brls.
Amsterdam, 261
Lithopone—
Rotterdam, 12 cks.
Magnesite—
Stavenger, 254 bgs.
Nickel—
New York, 4,908 pcs.
Oleine—
Rotterdam, 2 cks.
Oxalic Acid—
Hamburg, 2 cks.
Stavanger, 4 brls.
Potash Lye—
Hamburg, 52 dms.
Purple Ore—
Raa, 1,250 t. A. & A. Y. Mackay
Red Lead—
Rotterdam, 3 cks.
Rosin—
New York, 401 brls.
Salicylic Acid—
Rotterdam, 1 cs.
Salt (Waste)—
Hamburg, 270 t.
Soda—
Antwerp, 10 cks.
Soda Crystals—
Antwerp, 70 bgs.
Sodium Hyposulphite—
Rotterdam, 100 cks.
Sodium Nitrite—
Rouen, 31 cks.
Sodium Salicylate—
Rotterdam, 1 cs.
Starch—
Antwerp, 120 cs.
Rotterdam, 120
New York, 200 bgs.
Tartaric Acid—
Valencia, 4 cks.
Ultramarine—
Rotterdam, 17 cs.
Wax—
New York, 100 brls.
White Lead—
Rotterdam, 57 cks.
Zinc Oxide—
Hamburg, 5 cks.
Rotterdam, 10
Antwerp, 33 brls.
Zinc White—
Rotterdam, 10 cks.

TYNE.

Week ending July 6.

Acetic Acid—
Rotterdam, 8 cks. Tyne S.S. Co.
Antwerp, 50 ,,
Aluminium—
Amsterdam, 768 ingots Wm. Swanston & Sons
Asbestos—
Hamburg, 80 bgs. Tyne S.S. Co.
Barytes—
Antwerp, 200 bgs. Tyne S.S. Co.
Rotterdam, 300 66 cks. ,,
Chemicals (*otherwise undescribed*)
Antwerp, 1 brl. Tyne S.S. Co.
Bergen, 1 cs. P. H. Matthiessen & Co.
Colours—
Hamburg, 25 cks. Tyne S.S. Co.
Antwerp, 2 26 brls. ,,
Rotterdam, 1 ,,
Copper Ore—
Bergen, 24 bgs. P. H. Matthiessen & Co.
Copper Oxide—
Hamburg, 34 dms. Tyne S.S.Co.
Cryolite—
Copenhagen, 1 bx. Nielsen, Anderson & Co.
Glue—
Antwerp, 20 bls. Tyne S.S. Co.
Iron Oxide—
Amsterdam, 500 bgs. Wm. Swanston & Sons
Lithopone—
Rotterdam, 4 cks. Tyne S.S. Co.
Phosphate—
Antwerp, 500 bgs. Tyne S.S. Co.
Phosphate of Lime—
Sfax, 2,150 t. Langdale's Chemical Manure Co.
Potassium Prussiate—
Antwerp, 5 cks. Tyne S.S. Co.
Soda Crystals—
Antwerp, 197 bgs. Tyne S.S. Co.
Starch—
Antwerp, 294 cs. Tyne S.S. Co.
Sulphuric Acid—
Bergen, 2 cs. P. H. Matthiessen & Co.
Ultramarine—
Antwerp, 1 brl. Tyne S.S. Co.

GOOLE.

Week ending July 6.

Aluminium Sulphate—
Ghent, 150 bgs. 3 cks.
Antimony—
Boulogne, 8 cs.
Barytes—
Rotterdam, 64 cks. 100 bgs.
Bog Ore—
Antwerp, 50 t.
Caustic Potash—
Hamburg, 9 cks.
Chalk—
Hamburg, 10 cs.
Chemicals (*otherwise undescribed*)
Hamburg 8 cks. 16 cs.
Coal Products—
Creosote Salt
Rotterdam, 10 cks.1 bg.
Tar Salt
Rotterdam, 3 cks.
Colours—
Antwerp, 28 cks. 5 cs.
Dyestuffs—
Quebracho Extract
Antwerp, 10 cks.
Dyestuffs (*otherwise undescribed*)
Boulogne, 9 cks. 2 cs.
Hamburg, 307
Rotterdam, 478 39
,, 2
Explosives—
Gelignite
Rotterdam, 800 cs.
Permonite
Rotterdam, 500 cs.
Formic Acid—
Hamburg, 82 crbys.
Glue—
Antwerp, 60 bgs.
Magnesia—
Hamburg, 40 cs.
Oleine—
Dunkirk, 10 cks.
Rotterdam, 10
Oxalic Acid—
Hamburg, 5 cks.
Plumbago—
Hamburg, 2 cks.
Boulogne, 10 cs.
Potash—
Dunkirk, 15 dms.
Red Lead—
Rotterdam, 3 cks.
Saltpetre—
Hamburg, 1 brl.
Salt (Waste)—
Hamburg, 152 cks. 500 bgs.
,, 270 t.
Sodium Chromate—
Rotterdam, 25 cks.
Starch—
Ghent, 40 cs.
Antwerp, 160
Tin Oxide—
Hamburg, 17 cks.
Ultramarine—
Rotterdam, 20 cks.
Umber—
Antwerp, 2 brls.

GRIMSBY.

Week ending July 3.

Acid (*otherwise undescribed*)**—**
Helsingborg, 15 pks.
Barytes—
R'terdam, 9 cks. 290 bgs.
Caoutchouc—
Hamburg, 48 cs.
Antwerp 3
Caustic Potash—
Hamburg, 16 dms.
Chemicals (*otherwise undescribed*)
Rotterdam, 7 cks.
Hamburg, 3 2 cs.
Antwerp, 2
Colours—
Rotterdam, 1 ck.
Hamburg, 3 28 cs.
Antwerp, 89 pks.
Dyestuffs—
Tannin
Hamburg, 2 cs.
Ferro Chrome—
Dieppe, 120 cks.
Ferro Silicon—
Antwerp, 32 cks.
Glue—
Antwerp, 8 cks.
Gluestock—
Hamburg, 372 bgs.
Lamp Black—
Helsingborg, 20 cks.
Soap—
Hamburg, 2 cks. 26 cs.
Starch—
Antwerp, 50 cs.
Tartar—
Rotterdam, 2 cks.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 10

Alum—
Sydney, 1 t. £6
Ammonia—
Calcutta, 6 cs. £9
,, 10 15
Durban, 15 52
Callao, 6 50
Delagoa Bay, 17 52
Perth, 6 18
Shanghai, 10 dms. 9
Fremantle, 15 22
Sydney, 10 15
Hong Kong, 5 6
Huelva, 5 8
Ammonium Carbonate—
Alexandria, 20 kgs. £28
Perth, 3 cs. 11
Antwerp, 2 t. 10 c. 72
Hamburg, 1 50 120
Dunedin, 3 5
Buenos Ayres, 100 290
New York, 15 cks. 100
Ammonium Muriate—
Brussels, 2 t. £44
Sydney, 10 c. 41
Ammonium Sulphate—
Valencia, 400 t. 4 c. £4,445
Yokohama, 152 6 1,827
Barbadoes, 50 595
Kobe, 600 7,140
Keelung, 1 12
Hamburg, 160 1,920
Jamaica, 5 62
Antimony (Regulus)—
Calcutta, £62
Hamburg, 1 t.
Rotterdam, 3
St. Petersburg,5
Arseniate of Lime—
New York, 2 t. 19 c. £20
Arsenic—
Libau, 6 cks.2 kgs. £21
Asbestos—
Calcutta, £33
Hobart, 32
Barium Binoxide—
Paris, 15 t. 7 c. £525
Perth, a qty. 173
Bisulphate of Lime—
Brisbane, 1 t. £6
Bleaching Powder—
Jaffa, 1 t. £9
Borax—
Rotterdam, 2 dms £10
Calcium Carbide—
Durban, 3 c. £5
Calcium Chloride—
Alexandria, 1 t. £6
Sydney, 12 c. 19
Camphor—
Hamburg, £2,400
New York, 1,500 bls.
Carbon Bisulphide—
Otago, 30 dms. £19
Trinidad, 48 40
Shanghai, 20 28
Caustic Soda—
E. London, 6 t. 9 c. £146
Durban, 10 13
Chemicals (*otherwise undescribed*)
Bombay, 6 cs. £23
Fremantle, 4 t. 532
Port Louis, 18 16
Penang, 29 pks. 40
Durban, 2 5
Hong Kong, 8 175
Chemicals (*otherwise undescribed*)
Montreal, 52 cks. 226
,, 40 kgs.
Auckland, 40 62
Amsterdam, 10 cs. 220
Christiania, 1 1 69
Hamilton, 1 brl. 80 19
Cologne, 12 cks. 17
Rotterdam, 65 240
Delagoa Bay, 40 72
Mossel Bay, 2 12
Ostend, 7 76
Brussels, 3 39
Bremen, 7 109
Barcelona, 2 40
Venice, 4 12
Colombo, 1 7
Zanzibar, 1 22
Tsingtau, 5 38
Shanghai, 1 30
Melbourne, 4 31
New York, 1 36
Patras, 5 24
Lisbon, 1 6
Libau, 2 138
Sydney, 4 14
Trinidad, 1 10
Huelva, 4 8
Hamburg, 3 c. 1 cs. 77

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Citric Acid—
Genoa, 11 c. £80
Hamburg, 1 t. 12 315
10 kgs.
Montreal, 1 2 216
Toronto, 16 125
Rotterdam, 28 202
Calcutta, 5 63
Lyttelton, 1 10
Christchurch, 1 11
Untigua, 1 5
Jamaica, 1 11
Penang, 1 12
Auckland, 1 11
Dunedin, 1 7
Hong Kong, 2 c. 4 cs. 69

Coal Products (*otherwise undes.*)
Treport, 93 t. £233
Algoa Bay, 234 pks. 7
Rotterdam, 1 sk. 7

Coal Products—
Alizarine
Boston, 2 cks. £40
Bombay, 96 1 cs. 551
Aniline Dye
Calcutta, 1 ck. £11
Benzol
Kobe, 10 cs. £8
Carbolic Acid
Amsterdam, 53 cks. £212
Larnaca, 3 cs. 11
Calcutta, 3 pks. 14
Bombay, 51 67
Colombo, 10 40
Carbolic Acid (Crystals)
Bombay, 2 cs. £8
Auckland, 47 pks. 15
Creosote Salts
Christchurch, 37 cks. £19
Philadelphia, 650 bgs. 66
Mirbane
New York, 50 cs. £125
Naphthaline
Shanghai, 100 bgs. £74
Sydney, 130 cs. 116
Durban, 2 7
Smyrna, 10 cks. 9
Colombo, 4 6
Pitch
Hamburg, 100 brls. £270
Rotterdam, 19 82
Adelaide, 40 cks. 15
Alexandria, 100 30
Riga, 1 6
Boulogne, 2 14
Tar
Hamburg, 20 dms.
100 brls. £59
Perth, 1 c. 50 13
Durban, 130 21
Delagoa Bay, 10 70 21
60 pks.
Adelaide, 75 15
Suakin, 97 cks. 74
Algoa Bay, 500 17

Citric Acid (Crystals)—
Alexandria, 1 c. £13

Copper Sulphate—
Cologne, 28 t. £782
Fremantle, 1 32
Naples, 25 800
Odessa, 20 600
Delagoa Bay, 3 c. 5

Cottonseed Oil—
Marseilles, 7 t.
Rotterdam, 8 7 c.
Stockholm, 2 6
Genoa, 7 16

Cream of Tartar—
Fremantle, 10 cwts. £47

Cyanide (*otherwise undescribed*) —
Beira, 3 t. 8 c. £194
Delagoa Bay, 7 562
New York, 21 1,580
Tampico, 9 795

Disinfectants—
Sydney, 8 cs. £72
1 tnk. 4 dms.
Fremantle, 15 pks. 1 cs.
5 brls. 45
Malta, 4 13
Fremantle, 5 12 25
5 cks. 60
Genoa, 2 t. 26
Hamburg 4 40 4 26
Dunedin, 6 17
Otago, 3 46
Canterbury, 2 6
Sydney, 10 cks. 90 50 165
St. Petersburg, 2 5
Hong Kong, 3 100 21
Rotterdam, 2 24 12

Disinfectants—
Brisbane, 2cs. £6
Durban, 8 32
E. London, 4 12
Bombay, 483 pks. 100
Karachi, 5 cks. 17
Melbourne, 12 kgs. 54
New York, 18 48
Wellington, 9 29
Kilindini, 3 brls. 15
Penang, 8 cks. 20
Delagoa Bay, 4 10
Jamaica, 10 11
Perth, 50 15
Invercargill, 5 15
Beira, 40 kgs. 11
Newcastle, 5 14
Manilla, 30 20
Foochou, 2 cks. 6
Antigua, 5 10

Gelatine—
Hamburg, 3 c.
E. London, 10

Glycerine—
Jaffa, 4 c. £11
Hong Kong, 10 27
Kobe, 5 t. 240
Rangoon, 3 9
Philadelphia, 12 5 300

Hydrochloric Acid—
Callao 3 c 5
Colombo 13 cs.

Linseed Oil—
Adelaide, 8 t.
Auckland, 3 14 c.
Brisbane, 8
Canary Is., 3 2
Constantinople, 5 2
Cuba, 7
Delagoa Bay, 1 5
Durban, 2 10
Fremantle, 4
Halifax, 4 8
Hobart, 3
H. Kong, 1 7
Jamaica, 2 18
Limon, 3 9
Lyttelton, 2
Madeira, 10
Mauritius, 5 12
Melbourne, 17 8
Montreal, 5 3
Normanton, 1 1
Pelotas, 3 8
Perth, 3 8
P. Elizabeth, 1
P. Said, 1 10
Rotterdam, 3 3
Shanghai, 1 9
Singapore, 2 14
Sydney, 25 10
Townsville, 9
Beira, 3
Bombay, 3
Bundaberg, 1
Demerara, 2 9
E. London, 3 12
Gibraltar 11
Hamburg, 8
Hiogo, 2 2
Madras, 10
Maryborough 1
New York, 10
Taltal, 3 7
Valparaiso, 8 7
P. Alegre 2 12

Magnesium Carbonate—
Paris, 7 pks. £30

Manure—
Paris, 1 t. £9
Guernsey, 2 7
Penang, 14 126
Wellington, 2 1 c. 18
Rotterdam, 55 646
Durban, 10 50
Helsingborg, 1 5 19
Wellington, 152 13 495
N. Plymouth, 15 5 50
Jamaica, 10 95

Muriatic Acid—
Fremantle, 11 cs. £5

Nickel Sulphate—
Tokio, 5 cs. £44

Nitric Acid—
Callao, 2 c. £5
Beira, 6 5
Saukin, 9 5
Bombay, 2 6

Oxalic Acid—
Brisbane, 1 t. £35
Sydney, 10 kgs. 20

Phosphorus—
Dunedin, 10 cs. £67
Demerara, 3 19

Potassium Chlorate —
Dunedin, 10 c. £32
Montreal, 10 kgs. 18

Potassium Cyanide—
Bombay, 2 c. £9
Tokio, 3 9

Potassium Permanganate—
Perth, 3 kgs. £5

Potassium Sulphate—
Jamaica, 10 c. £5

Quinine—
Calcutta, 7,800 ozs.
Bombay, 16,434

Salammoniac—
Lyttelton, 13 c. £14
Yokohama, 1 t. 1 27
Shanghai, 10 20
Batoum, 3 4 106
Demerara, 13 20

Salicylic Acid—
Gisborne, 1 cs. £6

Salt —
Durban, 2 t.
Hobart, 1
Wellington, 3 10 c.

Saltcake—
Fremantle, 5 t. £17

Saltpetre—
Sydney, 8 t. £207
Brisbane, 10 250
Hamilton, 1 2 c. 32
Algoa Bay, 9 12

Salt (Waste)—
S.Petersburg, 5 t. 3 c. £38

Sheep Dip—
Durban, 100 dms. £20
New York, 8 t. 17 c. 61
Jamaica, 4 5
Christchurch, 1 cs. 7

Silver Nitrate—
Perth, 1 cs. £12

Soap—
Alexandria, 3 t. 2 c.
Beyrout, 1
Bombay, 3 2
Calcutta, 2 4
Christchurch, 2
Colombo, 3 10
Delagoa Bay, 3
Demerara, 2
Durban, 6 3
E. London, 14
Gibraltar, 6
Hamburg, 3
H. Kong, 1 10
Kilindini, 12
Labrador, 1 10
Lisbon, 2
Madras, 17
Lyttelton, 10
Mauritius, 12
Mombasa, 24 2
Odessa, 1
Otago, 1 1
Penang, 5
Perth, 3
Punta Arenas, 5
St. Petersburg, 3
Sydney, 9
Tientsin, 1
Tokio, 12
Wellington, 1 13
Yokohama, 4
Rotterdam, 4 7
Boulogne, 5
Bremen, 2
Brisbane, 2 13
Channel Is., 4
Constantinople, 15
E. London, 9
Fremantle, 1
Ghent, 4
Hamilton, 3
Jamaica, 4
Kobe, 1
Mauritius, 5
Mazagan, 2
Perth, 10
Pt. Elizabeth, 10
Pt. Sudan, 15
Pt. Swettenham, 2
St. Helena, 18
St. Johns, N'fld., 1
St. Thomas, 4
Singapore, 2
Toronto, 5
Townsville, 5
Valparaiso, 5
Wellington, 5

Soda—
Channel Is., 30 t. £105

Soda Crystals—
Jaffa, 1 t. £8
Colombo, 1 1 c. 6
Durban, 1 4 9

Sodium Arseniate—
Pt. Elizabeth, 4 t. 11 c. £154
Durban, 20 735

Sodium Bicarbonate—
Calcutta, 11 c. £15
Aden, 1 t. 8
Durban, 1 8

Sodium Cyanide—
Fremantle, 4 t. £344

Sodium Hyposulphite—
Perth, 1 t. 2 c. £6

Sodium Nitrate—
Antigua, 316 bgs. £317

Sodium Sulphate—
Toronto, 1 t. 17 c. £17

Sodium Sulphite—
Melbourne, 1 t. £32

Starch—
Calcutta, 1 t.
Christchurch, 51 2 c.
Delagoa Bay, 3 9
Durban, 4 9
Galatz, 1 12
Labrador, 1 8
Montreal, 12
Piræus, 1
Pt. Said, 3
Auckland, 4
Brisbane, 8
Otago, 5 13
St. Johns, N'fld., 4
Sydney, 7 10
Terneuzen, 4 8
Rockhampton, 8 13
Wellington, 4 8

Sulphite of Lime—
Boston, 4 kgs. £6

Sulphur—
E. London, 6 t. 5 c. £67

Sulphuric Acid—
Fremantle, 5 cs. £4
Trinidad, 2 t. 11 c. 8
Nairobi, 1 9
Channel Is., 19 10
Huelva, 6 32
Colombo, 1 3 13
Hobart, 1 9 11

Tallow—
Riga, 14 t. 19 c.
Rotterdam, 112 1
Santos, 1 16
Antwerp, 42 8
Brussels, 25 3
S. P'burg, 100 6

Tartaric Acid—
Christchurch, 1 c. £5
Copenhagen, 1 6
Gisborne, 5 25
Wellington, 3 15
Hong Kong 8 48
Alexandria, 2 10

Wax—
Saigon, 2 t.

White Lead—
Brisbane, £176
Durban, 73
Hong Kong, 63
Manilla, 363
Melbourne, 407
New York, 166
Pt. Elizabeth, 12
Santos, 314
Sydney, 424
Townsville, 83
Stockholm, 70
Auckland, 182
Colombo, 20
Montreal, 1,099
Perth, 54

LIVERPOOL.

Week ending July 10.

Acetic Acid—
San Juan, 1 cs. £3
New York, 4 c. 4

Alum—
Rio de Jan., 18 c. £5
Tampico, 14 4
Dedeagatch, 3 t. 15
B. Ayres, 2 12 18
Dunedin, 1 8
Madras, 2 2 50
Calcutta, 2 4 13
P. Alegre, 5 2
Lisbon, 7 14 39
Adelaide, 1 5
Bilbao, 12 4
Melbourne, 19 8

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Alumina—
Sydney, 85 cks.

Alumina Sulphate—
Sydney, 25 t. 2 c. £125

Aluminium—
Madras, 2 cs.

Alumina Ferric—
Rosario, a quty. £—

Aluminous Sulphate—
Halifax, 20 hf-trcs. £24

Ammonia—
Barranquilla, 1 cs. £1
Calabar, 1 c. 6

Ammonia (Anhydrous)—
Las Palmas, 10 c. £20

Ammonium Carbonate—
New York, 2 t. 7 c. £81
M. Video, 6 7 cs. 33
Amsterdam, 6 1 23
Pasages, 12 20
B. Ayres, 2 80
Gutuzewsky, 18 630
Genoa, 5 7 132
Bari, 12 20
Bahia, 2 6
Bordeaux, 1 18 67
Marseilles, 1 9 48
Baltimore, 87
Baltimore, 108 7 2,262
Philadelphia, 52 15 1,254
Lisbon, 1 24
Cairo, 1 24
Amsterdam, 1 14 37
Salonica, 1 24
Velo, 3 4
Aigion, 5 6
Calacolo, 5 6
Stamboul, 10 12
St. Louis, 15 11 381
Bilbao, 10 240
Christiania, 6 7
Marseilles, 6 7
Gothenburg, 1 24
Barcelona, 2 19 62
Sydney, 1 4 29

Ammonium Sulphate—
New York, 71 t. £835
Valencia, 109 3 c. 551
Las Palmas, 117 6 1,505
Hamburg, 52 621
Teneriffe, 44 8 526
Colombo, 19 10 240
Gd. Canary, 18 216
Demerara, 40 490
Baltimore, 113 5 1,329
Alicante, 60 116
Christiania, 20 240
Motril, 150 1,800
Alicante, 45 540
Antiqua, 20 215

Antimony—
Parr, 6 dms.
S.Petersburg, 59 cks.

Asbestos—
Melbourne, 1 cs.
Montreal, 1 bx.
Rangoon, 1

Barium Sulphocyanide—
V. Cruz, 4 c. £8

Barytes—
P. Arenas, 100 kgs.

Basic Slag—
Bilbao, 20 t. £30

Bleaching Powder—
Baltimore, 27 cks.
Boston, 306
Christiania, 15
Valparaiso, 100 dms.
Delagoa Bay, 40
Accra, 20
Bombay, 148 cs.
Montreal, 136
New York, 42
Genoa, 30

Boiler Disinerustant—
Oporto, 12 cks.

Bone Ash—
Las Palmas, 39 t. 5 c. £120

Boracic Acid—
San Juan, 1 ck. £3

Borax—
Madras, 1 t. 2 c. £30
V. Cruz, 2 30
Tampico, 4 8 74
Sydney, 2 32
Cape Town, 5 4
New York, 2 2
Rotterdam, 2 5
Calbarien, 1 5 18
Cartagena, 1 brl. 2

Borax—
Matanzas, 1 t. 19 c. £30
Havana, 2 30
Lisbon, 12 2 101
Hamburg, 30 10 458
Piræus, 6 5

Calcium—
P. Elizabeth, 1 dm. £1

Calcium Carbide—
Demerara, 1 cs. £2

Calcium Chloride—
Havre, 5 t. 3 c. £13
P. Said, 5 3 16
Odessa, 20 4 56
Brisbane, 34 17 72
Sydney, 9 19 20
Genoa, 17 14 41
Naples, 3 12 8
Spezzia, 19 2
Therezina, 10 2
Christiania, 16 2
Montreal, 15 27

Calcium Sulphydrate—
Antwerp, 10 t. 8 c. £43
Ghent, 10 7 43

Carbonate of Lime—
New York, 6 t. £59

Caustic Potash—
Savanilla, 1 t. 1 c. £11
St. Louis, 1 15 46
Montreal, 5 8
Boston, 5 7 139
St. Louis, 1 15 46

Caustic Soda—
Bahia, 326 dms.
Barcelona, 84 cks.
Bombay, 5
Cadiz, 20 brls.
Calcutta, 120
Cape Town, 16 cs.
Christiania, 66
Fremantle, 600
Hamburg, 200
Madras, 33
Melbourne, 162
Montreal, 140 brls.
Napier, 19
Padang, 150
Rotterdam, 12
Singapore, 20
Sourabaya, 7
Sousse, 5
Talcahuano, 200
Timaru, 10
V. Cruz, 145
Vigo, 30
Maceio, 15
Mexico, 20
B. Ayres, 50
Durban, 64
Guaymas, 60
Havana, 55
Kobe, 150
Manaos, 4 kgs.
Penang, 15
Perth, 6
Sarawak, 200
Seville, 100 brls.
Shanghai, 103
Sydney, 45 265
Tampico, 360

Chemicals (*otherwise undescribed*)
Bordeaux, 5 t. 4 c. £10
Santander, 16 cks. 30
Madras, 7 brls. 38
Marseilles, 1 9
Christiania, 1 10
Patras, 2 7
Bari, 10 38
Genoa, 2 20 / 10 kgs. 112
Ancona, 20 32
Sydney, 12 brls. 32
Brussels, 24 pks. 87
Stettin, 99
Konigsberg, 13 28
P. Colombo, 3 20 cs. 80
Antwerp, 175 brls. —
Montreal, 25 78
Odessa, 20 kgs. 30
Lyttelton, 57 20 10 / 6 pks. 111
Ghent, 15 brls. 24
Auckland, 6 20 86
Wellington, 2 t. 75
Timaru, 10 kgs. 8
Calcutta, 1,040 slabs. 71
Melbourne, 25 cks. 30
Havana, 15 dms. 23
Baltimore, 71 388
Toronto, 52 195
Samarang, 1 t. 4 c. 12 26
Sourabaya, 53 79
Padang, 3 4
M. Video, 2 crts. 4

China Clay—
Bombay, 430 cks.
Maccio, 20
V. Cruz, 104

Citric Acid—
St. Petersburg, 10 c. £98

Coal Products—
Alizarine Oil
Lisbon, 1 ck.
Aniline
Calcutta, 8 cks. 5 kgs.
Genoa, 29 pks.
Aniline Colour
Alexandria, 2 cs.
Boston, 28 cks.
New York, 17 5 kgs.
Aniline Oil
Barcelona, 14 dms.
Aniline Salt
Madras, 1 t. 5 c. £60
Carbolic Acid
Conakry, 5 dms. £3
Carbolic Acid (Crystals)
Sydney, 1 cs. £2
Carbolic Acid (Fluid)
New York, 3 t. 15 c. £160
Carbolic Acid (Solid)
Libau, 1 t. £37
Creosote
Clinton, 2 cks.
Creosote Oil
Galveston, 60 cks.
Seattle, 542 dms.
Creosote Salt
Boston, 1 ck. 5 kgs. £95
Portland, 9 c. 20
Cresylic Acid
Sydney, 4 t. £47
Pitch
Antofagasta, 10 brls.
Galatz, 200 bls.
Sulina, 30
Vigo, 50
Bilbao, 57
Bombay, 12
New York, 5
Talcahuano, 250
Tar
Accra, 10 brls.
Durban, 250 dms.
Las Palmas, 5
Philadelphia, 200
Tar Oil
Genoa, 24 dms.

Colours—
Oporto, 6 kgs.
Calabar, 10
Manaos, 120 cks.
Seville, 20
S. Leone, 140 2 dms.

Copperas—
Las Palmas, 18 c. £2
Teneriffe, 4 t. 16
Brisbane, 7 brls. 2

Copper Sulphate—
Varna, 1 t. £31
Bourgas, 5 1 c. 151
Galatz, 52 8 1,134
M. Video, 4 3 128
B. Ayres, 2 65
Rangoon, 10 16
Vera Cruz, 63 13 1,918
Talcahuano, 8 1 167
Bordeaux, 30 12 643
Christiania, 17 25
Danzig, 1 30
Libau, 1 31
Braila, 2 66
Calcutta, 6 129
Antwerp, 12 7 367
Almeria, 2 3 64
Barcelona, 55 8 1,665
Vigo, 2 60
Riga, 2 2 63
Odessa, 5 153
Ghent, 5 151
Alicante, 5 2 166
Manaos, 4 7
Para, 6 9

Cottonseed Oil—
Marseilles, 592 brls.
Bathurst, 8
Dakar, 10

Cyanide (*otherwise undescribed*)—
Natal, 3 t. £270
Sekondi, 2 6 c. 157

Dextrine—
Barcelona, 1 bg.

Disinfectants—
Karachi, 4 t. 19 c. £60
Bombay, 2 10 100 dms. 71
Bari, 1 cs. 1
C. Coast, 5 bgs. 2

Disinfectants—
Singapore, 5 cks. 60 dms. / 20 kgs. 475
Algoa Bay, 330 115
Brisbane, 28 1 bx. 14
Calcutta, 1,600 85
Rio de Jan., 10 13
Sydney, 2 cs. 5
E. London, 1 4
S. Leone, 4 7
Colombo, 2 4
Santiago, 1 5
S. Leone, 1 1

Dried Blood—
Philadelphia, 49 t. £486
Colombo, 9 10 c. 96
Teneriffe, 6 57
Las Palmas, 6 57
G. Canary, 2 19

Dyestuffs—
Dyewood Extract
Bahia, 5 cs.
Barcelona, 1 ck.
Tannin Extract
Galatz, 50 cks.
Lisbon, 10 cs.
Gothenburg, 55

Ferro Chrome—
Gothenburg, 2 cks.

Fish Oil—
Havre, 30 brls.

Glue—
Montreal, 285 pks.
New York, 1 cs.
Shanghai, 20
Wellington, 5
Auckland, 15 bxs.
Boston, 100 bgs.
B. Ayres, 20
Rangoon, 36 cks.
Yokohama, 20

Glue Stock—
Boston, 75 bgs.

Glycerine—
New York, 16 c. £43
St. Johns, 1 t. 47
Amsterdam, 4 15 250
Brisbane, 5 14
Bombay, 1 10 86
Vera Cruz, 1 2 53
Montreal, 43 3 1,828
Phila'phia, 269 16 7,308

Horn Piths—
Boston, 16 bls.

Iron Oxide—
New York, 10 cks.

Lead Acetate—
Kerasunde, 2 cks. £25

Linseed Oil—
Alexandria, 12 brls.
Antofagasta, 725 dms.
Delagoa Bay, 125
Gaboon, 10
Havana, 43 cks. 22 / 8 bls.
Lisbon, 7
Manaos, 54
M. Video, 100
Nassau, 7
Para, 30
Antwerp, 3 cks. 1
Bari, 6
Calcutta, 25
Callao, 50
Cienfuegos, 28
Coronel, 20
Hamburg, 2
Karachi, 180
Lagos, 30
Marseilles, 7
Patras, 5
Salonica, 18 15
San Pablo, 50
Talcahuano, 455
Volo, 1
Guayaquil, 50
Iquitos, 2 cs.

Magnesia—
Auckland, 1 c. £2
Malta, 1 t. 10 20
Melbourne, 1 4 25
Lisbon, 15 37

Magnesia (Calcined)—
Auckland, 1 t. 1 c. £19
Vera Cruz, 1 5 38
Cartagena, 1 cs. 3
Havana, 8 36
B. Ayres, 1 1
M. Video, 1 2
Bahia, 1 2
Melbourne, 1 18
Quebec, 10 24

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Magnesite—
Lisbon, 20 pks.

Magnesite (Calcined)—
Brisbane, 11 c. £9

Magnesium Carbonate—
C. Town, 5 t. £95
Demerara, 1 cs. 1

Magnesium Chloride—
Penang, 10 c. £2

Manganese Ore—
Montreal, 48 cks.

Manure—
Havana, 70 t. £435
New York, 393 11 c. 2,230
Rosario, a qty. —
Lyttelton, 25 125
Rotterdam, 2 12 25

Muriatic Acid—
Manaos, 1 cs. €1
Kingston, 1 1
Demerara, 1 1

Nitric Acid—
Demerara, 1 cs. £3

Oleine—
Barcelona, 4 brls.
New York, 54 cks.

Oxalic Acid—
Boston, 3 t. 2 c. £109
Wellington, 1 kg. 2

Paraffin Wax—
Durban, 75 bls.
Cephalonia, 5 cks.
Naples, 300 bgs.

Phosphorus (Amorphous)—
Kobe, 2 t. 10 c. £440

Plumbago—
Antofagasta, 2 cks.

Potash—
Bordeaux, 2 c. £3
Manaos, 6 2

Potassium Bichromate—
Smyrna, 1 t. 2 c. £3
Durban, 3 5

Potassium Carbonate—
Boston, 5 t. 6 c. £127
Santos, 19 20

Potassium Chlorate—
Kalmar, 1 t. 18 c. £56
M. Video, 2 4
Manila, 5 15
Shanghai, 5 15
Rotterdam, 2 4 64
Copenhagen, 5 150
Stettin, 10 283
Rotterdam, 1 28
Pasages, 2 10 75
Christiania, 6 5 188

Potassium Cyanide—
Yokohama, 2 c. £10

Potassium Prussiate—
Cartagena, 1 kg. £4
Vera Cruz, 1 t. 7 c. 81
Genoa, 12 5 693

Rubber—
Coquimbo, 5 bls.
Hamburg, 11 pks.
Las Palmas, 1 cs.
Melbourne, 41 bgs.
Lisbon, 21 trcs.

Salammoniac—
Bari, 6 c. £12
Calabar, 5 6
Naples, 9 17
Constanti'ple, 3 t. 115
Varna, 1 39
Antwerp, 4 8

Salt—
Antwerp, 316 t. 3 c.
Auckland, 100
Belize, 89 5
Bombay, a qty.
B. Ayres, 62
Calabar, 230 15
Calcutta, 5,063
C. Palmas, 4 9
Durban, 100
E. London, 4 15
Ghent, 60
Gibraltar, 5
Las Palmas, 25
Lyttelton, 30
Manaos, 85 17
Mossel Bay, 32 2
Nassau, 10
N. Orleans, 895
Victoria, 6 14
Wiborg, 1,493
Wellington, 158 5

Salt—
Brass, 12 t. 10 c.
Degama, 50
Delagoa Bay, 25 cs.
Madras, 10 cks.
Montreal, 316 7
M. Video, 25
Opobo, 40 4
Quebec, 20
Rio de Jan., 100
Manila, 50 pks.
New York, 65 t. 300
Para, 10
St. Johns, 10
Sydney, 23 12

Saltcake—
Philadelphia, 49 t. 8 c. €83
Leghorn, 200 598
Antwerp, 103 15 104

Saltpetre—
Ica, 1 t. 5 c. £32
S. Leone, 1 brl. 3

Sheep Dip—
B. Blanca, 13 t. 7 c. £445
S. Cruz, 3 19 108
P. Arenas, 6 1 75 cs. 257
Wellington, 2 75
Stanley, F.I., 12 brls. 42
St. Nazaire, 1 3
B. Ayres, 5 5 c. 63
E. London, 2 6 34

Soap—
Alexandria, 19 dms. 70 cs. 24 brls.
Auckland, 4 10
Benin, 3
Boston, 10 bxs.
Calcutta, 224 422
C. C. Castle, 50
C. Town, 13 500
Christchurch, 11 11
Fremantle, 740
Genoa, 100
Karachi, 104 605
M. Video, 50
New York, 3 cks.
P. Arenas, 27 10
Rangoon, 879 1,704
St. Vincent, 100
Samarang, 875
Santos, 20
Sekondi, 12 bdls. 285
Siam, 75
S. Leone, 1
Singapore, 68 664
Surinam, 40
Warri, 200
Wellington, 12
Antwerp, 73 / 120 bgs.
Abonnema, 3
Amsterdam, 180
Barbadoes, 100
Belize, 1,376
Bombay, 172 210
B. Ayres, 3
Burutu, 422
Calabar, 30
Chinde, 35
Christiania, 25
Colombo, 30 110
Constantinople, 261
Delagoa Bay, 595
Demerara, 1
Dunedin, 1,000
Durban, 157 brls. 131 94 bxs.
E. London, 4 803
Gibraltar, 230
Iquitos, 392
Kingston, 191
Lagos, 1,280
Limon, 500
Las Palmas, 876
Lisbon, 33
Madras, 156
Malta, 4
Manaos, 565
Monrovia, 764
P. Stanley, 45
Porvenir, 25
Rotterdam, 2,035
Saltpond, 25
Shanghai, 750
Tampico, 3 cks.
Tangiers, 303
Tocopilla, 130
Valparaiso, 1
Vera Cruz, 1

Soap Extract—
Sydney, 177 cs. 2 tnks.
Albany, 200
Auckland, 40
Wellington, 20

Soap Powder—
Fiume, 5 crts.
Rotterdam, 100 bxs.
Alexandria, 20 cs.
Calcutta, 80 kgs.
Dunkirk, 50

Soda Ash—
Barcelona, 24 cks. / 100 bgs.
Calcutta, 2,413 114 sks.
Copenhagen, 1,500
Hamburg, 20
H. Kong, 290
Lyttelton, 5
Malmo, 350
Rotterdam, 676
Shanghai, 1,120 1,708
Singapore, 25
Tampico, 500
Havana, 8
Bombay, 42 kgs.
Christiania, 27 525
Galveston, 100
Gothenburg, 215 1,000
Guaymas, 5
Kalmar, 1,510
Manaos, 2
Maranham, 230 30 brls.
Melbourne, 145
Montreal, 150 bgs.
New York, 27
Norrkoping, 136 1,305
Perth, 9
Rio Grande, 5
Santos, 100 10
Savannah, 50
Seville, 100
Sourabaya, 200
Sydney, 198
Talcahuano, 195
Torreon, 61
Vera Cruz, 78 160

Soda Crystals—
Bombay, 10 kgs.
B. Ayres, 1,355
Maranham, 35
Montreal, 25 cks. 300
Santos, 14
P. Said, 50 brls.

Sodium Bicarbonate—
Dunedin, 20 kgs.
Lyttelton, 198
New York, 25
Perth, 50
Rangoon, 50
Sourabaya, 20
Tampico, 32
Vancouver, 44 dms.
Yokohama, 500 bgs.
Alexandria, 100
Barcelona, 435
Bilbao, 15 cks. 45
Braila, 16
Brisbane, 1,085
Calcutta, 499
C. Town, 12
Guaymas, 5
La Libertad, 40
Malta, 40
Manila, 100
Marseilles, 17
Newcastle, 27
Oporto, 35
Patras, 20
Rangoon, 91
Rockhampton, 20
Salonica, 120
Sydney, 53 1,128
Valencia, 11 40 255
Vera Cruz, 50
Montreal, 25 70

Sodium Bichromate—
Bombay, 3 cks.

Sodium Chlorate—
Vera Cruz, 26 kgs.

Sodium Silicate—
Auckland, 8 dms.
Brisbane, 21
Malta, 16 cks.
Odessa, 32
Wellington, 50 bgs.
Braila, 45 kgs.
Mexico, 30
Talcahuano, 230
Tampico, 672

Stearine—
Copenhagen, 50 trcs.

Sulphur—
Gothenburg, 125 t. £563
Maccio, 4 c. 1
P. Arenas, 8 77
E. London, 1 cs. 2
Trinidad, 2 14

Sulphuric Acid—
Manaos, 6 c. 2 cs. £5

Superphosphate—
Montril, 148 t. 10 c. £362
Malaga, 99 253
Valencia, 99 242
Bonanza, 198 482
Algeciras, 198 499
Canary Is., 39 5 106
Teneriffe, 15 14 43
Las Palmas, 31 1 84

Tallow—
Assini, 2 cs.
Bombay, 11 cks.
P. Mexico, 3
P. Said, 1
Sekondi, 15 kgs.
Alexandria, 20 trcs.
Gibraltar, 6

Tartar Emetic—
Vera Cruz, 13 c. £58

Tartaric Acid—
Alexandria, 1 brl. £11
San Juan, 1 ck. 5
Ica, 2 c. 13

Tin Oxide—
Oporto, 1 ck.

Turpentine—
Alexandria, 40 dms.
Galata, 15 brls.

White Lead—
Dunedin, 170 dms.
Durban, 127 cks.
Wellington, 70 kgs.

Venetian Red—
Dunkirk, 17 cks.

Zinc Ashes—
Antwerp, 22 t.

Zinc Chloride—
Madras, 2 t. 4 c. £33
Rotterdam, 1 dm. 4

Zinc Muriate—
Karachi, 10 c. £7

Zinc Ore—
Auckland, 6 t. 7 c.

Zinc White—
Manaos, 15 brls.

MANCHESTER.

Week ending July 10.

Ammonium Sulphate—
Philadelphia, 100 bgs.
Rotterdam, 500
Alexandria, 200

Calcium Sulphydrate—
Antwerp, 100 brls.

Caustic Potash—
Jaffa, 1 dm.
Malta, 5

Chemicals (*otherwise undescribed*)
Boston, 10 cks.
Rouen, 2
Acre, 12 brls.
Bombay, 69
Hamburg, 3
Tunis, 1
Montreal, 5 / 32 t. 10 cks.

China Clay—
Boston, 146 cks.

Coal Products—
Aniline Oil
Philadelphia, 4 cks.
Aniline Salts
Mersyne, 10 brls.
Carbolic Acid
Rotterdam, 58 cks.
Rouen, 1 cs.
Cresylic Acid
Philadelphia, 30 cks.
Mirbane
Philadelphia, 2 dms.
Naphtha
Treport, 25 brls.
Naphthylamine
Germany, 76 cks.

Colours—
Boston, 22 cks. 4 kgs.

Copperas—
Acre, 12 brls.

Copper Sulphate—
Mersyne, 5 kgs.

Dried Blood—
Rouen, 14 bgs.

Glue—
Germany, 10 cks.
Alexandria, 2

Linseed Oil—
Beyrout, 18 brls.
Caiffa, 4
Jaffa, 5
Tripoli, 12

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Mineral White—
Antwerp, 1 ck.
Ghent, 12
Rouen, 60

Naphthionate—
Switzerland, 9 cks.

Oxalic Acid—
Montreal, 5 cks.

Potassium Bichromate—
Alexandria, 17 cks.

Salammoniac—
Acre, 5 brls.
Larnaca, 1
Tunis, 1

Salt—
Montreal, 200 t.
Rotterdam, 120 t.

Soap—
Bombay, 10 cs.
Alexandria, 30 pks.
Larnaca, 6
Tantah, 90 bxs.

Soda Ash—
Beyrout, 10 brls.

Sodium Bicarbonate—
Treport, 14 cks.

Starch—
Amsterdam, 500 bgs.
Bombay, 8

Stearine—
Rotterdam, 10 brls.

Zinc Ashes—
Antwerp, 222 bgs.

Zinc Oxide—
Antwerp, 1 ck.

HULL.

Week ending July 6.

Ammonium Sulphate—
Stettin, 1,110 bgs.

Chemicals (*otherwise undescribed*)
Amsterdam, 43 cks. 12 dms.
Antwerp, 5 4 kgs.
Alexandria, 53
Bergen, 4
Bremen, 5 / 3 cs.
Copenhagen, 10
Christiania, 47 250 bgs.
Harlingen, 2 dms.
Helsingfors, 5 cs.
Gothenburg, 21 4 pks. / 4 kgs.
Libau, 20
Montreal, 10
Riga, 10 2 / 2 dms.
Rotterdam, 79 1 cs.
Stettin, 8
Stavanger, 50 bgs.
S. Pet'sburg, 209 32 kgs.

Coal Products—
Benzol
Reval, 75 dms.
Naphtha
Dunkirk, 11 dms.
Pitch
Antwerp, 1,136 cs.
Wyburg, 595
Tar
Amsterdam, 2 cks.
Bergen, 4
Christiania, 55
Hamburg, 34
Stettin, 5
Rotterdam, 10

Cottonseed Oil—
Amsterdam, 5 t. 10 c.
Copenhagen, 3
Christiania, 17
Helsingfors, 100
Rotterdam, 5
Stockholm, 4 8

Dyestuffs (*otherwise undescribed*)
Antwerp, 21 cks.

Linseed Oil—
Aalesund, 17 c.
Amsterdam, 17
Copenhagen, 3 t. 10
Drontheim, 1 5
Hamburg, 17
Christiania, 4
Stavanger, 10
Ch'tiansund, 1 14

Plumbago—
Ghent, 9 cks.

Manure—
Amsterdam, 80 bgs.
Bremen, 240
Hamburg, 2,100
Libau, 3,120
Reval, 6,220

Starch—
Stockholm, 22 cs.

Tallow—
Amsterdam, 14 cks.
Gothenburg, 35

Turpentine—
Amsterdam, 4 cks.
Antwerp, 8 1 dm.
Christiania, 5
Hamburg, 1 1
Stettin, 3

Witherite—
Reval, 309 bgs.

GLASGOW.

Week ending July 11.

Ammonium Carbonate—
Rangoon, 2 t.
Barcelona, 1 1 c. 3 q.
Amsterdam, 1 3
Bombay, 1

Ammonium Sulphate—
Canada, 3 t. 1 c. 2 q.
Barcelona, 26 5
Cartagena, 30 7
Valencia, 99 8 3

Borax—
Rotterdam, 17 c.

Boracic Acid—
Rotterdam, 1 c.

Borax—
Rotterdam, 10 t.

Caustic Potash—
Melbourne, 1 t. 1 q.

Caustic Soda—
Belgium, 11 c. 1 q.

Coal Products—
Creosote
Stockholm, 13 t. 7 c.
Creosote Oil
Bordeaux, £150
Christiania, 2 t. 3 c.
Naphtha
Australia, £75
Pitch
Bombay, a qnty.
Canada, £30
Christiania, 22 t. 13 c.
Tar
Rangoon, £113
Calcutta, 169 t.
Bombay, a qnty.
Delagoa Bay, 75
Tar Oil
Canada, £35

Dyestuffs (*otherwise undescribed*)
Canada, £180
Barcelona, 110

Farina—
Melbourne, 2 t. 9 c. 1 q.

Fish Oil—
Calcutta, £128
Barcelona, 316
Belgium, 142
Valencia, 185
Amsterdam, 10 brls.
Antwerp, 5

Glycerine—
B. Ayres, £63

Iron Oxide—
Calcutta, 2 t.

Linseed Oil—
Peru, 7 t. 7 c. 1 q.
Bombay, 2 1 2
Calcutta, 5 15 2
Melbourne, 7 6 2
Sydney, 18 2 1

Litharge—
Beira, £26

Magnesium Sulphate—
Paris, £25

Nitric Acid—
Madras, 2 t. 10 c.

Oxalic Acid—
Stockholm, 1 t. 4 c.

Paraffin Wax—
Rouen, 1 t. 19 c. 3 q.
Barcelona, 9 9 2
Cartagena, 19 2
Christiania, 2
Bordeaux, 5 10

Phosphate of Lime—
Melbourne, 3 t. 7 c. 2 q.

Potassium Bichromate—
Rotterdam, 4 t. 16 c.
Barcelona, 17 11
Sweden, 2 2
Stockholm, 1 14
Bombay, 5 2 2 q.
Melbourne, 1 11 3
Sydney, 3 19 1

Potassium Carbonate—
Calcutta, 1 t. 2 c. 2 q.

Potassium Cyanide—
Beira, £391
Bordeaux, 64
Delagoa Bay, 475
Melbourne, 1,540
Sydney, 700

Red Lead—
Calcutta, 12 t. 14 c. 3 q.
Rangoon, 4
Stockolm, 10
Adelaide, 1 5 3
Melbourne, 8 14 1
Sydney, 3 13 3

Rosin Oil—
Stockholm, 16 t. 2 c.

Saltcake—
Melbourne, 11 t. 9 c. 3 q.

Sheep Dip—
Sydney, £350

Soap—
E. London, 11 t. 3 c.
Bombay, 1 12
Sydney, 1 7 2 q.

Soap Powder—
France, 1 t.

Sodium Bichromate—
Rotterdam, 12 c.
Barcelona, 1 t. 11 1 q.

Sodium Cyanide—
Delagoa B., £2,060
Melbourne, 364
Sydney, 227

Sulphuric Acid—
Rangoon, £440
Colombo, 3 t. 15 c.

Tallow—
Rotterdam, 16 c.

White Lead—
Rangoon, 10 t. 12 c.
Calcutta, 2
Natal, 3 12
Stockholm, 10
Melbourne, 53 6 2 q.
Sydney, 32 15

Zinc Oxide—
Rangoon, 1 t.
Colombo, 1
Calcutta, 1 2 c.
Adelaide, 1 6

Zinc White—
Calcutta, 1 t.

TYNE.

Week ending July 6

Antimony Regulus—
Hamburg, 194 t. 10 c.
Pomaron, 2 11 lb.
S.Peter'g, 113
Rotterdam, 6

Barium Binoxide—
Hamburg, 40 t. 10 c. 3 q. 11 lb.
Venice, 9 6 2 12

Barium Carbonate—
Hamburg, 179 t. 6 c. 2 q.

Bleaching Powder—
Stockholm, 61 t. 9 c. 3 q. 18 lb.
Gothenburg, 5 9
Aarhus, 10 3 2 12
Rotterdam, 15 2 1 3
Christiania, 19 1 20

Bone Meal—
Hamburg, 49 t. 17 c. 1 q. 9 lb.

Caustic Soda—
Antwerp, 1 t. 14 c. 3 q. 8 lb.
Stockholm, 38 1 2
Gefle, 1 3 25
Gothenburg, 29 1 22
Aarhus, 2 18 4
Hamburg, 16 14 3 8
Christiania, 4 7 6
Barcelona, 43 17 26

Chalk—
Trieste, 5 t. 1 c.

Coal Products—
Pitch
Antwerp, 195 t. 6 c.
Bilbao, 8 14 22 lb.

Iron Oxide—
S.Petersburg, 4 t. 11 c. 3 q. 14 lb.

Linseed Oil—
Rotterdam, 2 t.

Litharge—
Riga, 24 t. 4 c. 1 q. 2 lb.

Magnesia—
Christiania, 2 c. 4 lb.

Manure—
Valencia, 1,256 t. 10 c. 3 q. 2 lb.
Gandia, 150

Red Lead—
Hamburg, 15 t. 9 c. 2 q. 18 lb.
Aalborg, 1 2 15
Bergen, 3 7 25
Stockholm, 2 3 5
Gothenburg, 5 3
Christiania, 1 11 13
Fiume, 1 4 3 24

Soda—
Stavanger, 10 t.

Soda Ash—
Rotterdam, 6 t. 2 q. 16 lb.

Soda Crystals—
Rotterdam, 4t. 16 c.

Sodium Arseniate—
Antwerp, 12 c. 2 q. 9 lb.

Sodium Silicate—
Riga, 1t. 15 c. 2 lb.

Sodium Sulphide—
Hamburg, 20 t. 3 c. 25 lb.
Stockholm, 4 19 3 q. 27
Gothenburg, 4 17 1
S.Petersburg, 19 18 1

Sulphur—
Gothenburg, 100 t.
Christiania, 150

Tallow—
Rotterdam, 1 t. 1 c. 3 q. 4 lb.

Witherite—
Riga, 100 t.

Zinc Ore—
Antwerp, 1,003 t. 16 c. 1 q.

GOOLE.

Week ending July 6

Ammonium Sulphate—
Hamburg, 30 t.

Chemicals (*otherwise undescribed*)
Amsterdam, 5 dms.
Antwerp, 64 cks.
Boulogne, 7 cs.
Hamburg, 26 121
Rotterdam, 27
,, 34 22 pks.

Coal Products (*otherwise undes.*)—
Amsterdam, 149 cks.
Antwerp, 1
Boulogne, 49
Hamburg, 98 15 dms.
Rotterdam, 2 2

Coal Products—
Pitch
Antwerp, 702 t.

Colours—
Amsterdam, 2 cks. 168 dms.
Antwerp, 13
Boulogne, 4
Rotterdam, 1 2 cs.

Zinc Ore—
Antwerp, 93 bgs.

GRIMSBY.

Week ending July 3.

Chemicals (*otherwise undescribed*)
Gothenburg, 11 brls.
Hamburg, 11
Helsingborg, 13 cks.
Molino, 4

Coal Products (*otherwise undes.*)—
Dieppe, 56 brls.
Hamburg, 8 dms.

Colours—
Dieppe, 1 brl.
Hamburg, 10 bgs. / 10 cks. 2 cs.
Helsingborg, 1
Rotterdam, 1

Manure—
Hamburg, 2,135 bgs.

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PRICES CURRENT.

FRIDAY, July 19, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/- &		13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	83	10	0
Arsenic, white powdered	nett ,,	32	10	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/- &		40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	17	6
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	47	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/- to		65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	10	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/- to		27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London,	per unit, per cwt.	1½ to		1¾
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	94	10	0
,, Sulphate	,,	31	0	0
,, Oxide (copper scales)	,,	84	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	23	0	0
,, Litharge Flake (ex ship)	,,	23	10	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	6
,, ,, Miscible, 60° O.P.	,,	0	2	1
Oils :—				
Cottonseed	per ton	30	0	0
Linseed	,,	26	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	15	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 3/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags)	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	25	0	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3¾
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	36	0	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	187	0	0
Zinc (Spelter)	,,	24	0	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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THE NITRATE HALF-YEAR.

ACCORDING to official returns, the deliveries of nitrate of soda from European ports in the first six months of 1907 reached 940,790 tons, of which 73,730 tons in the United Kingdom and 867,060 tons on the Continent. Although only 23,310 tons larger than in the corresponding period last year, the total must be considered highly satisfactory, in view of the unfavourable circumstances under which it was attained, the season having been exceptionally backward, while the principal nitrate port, Hamburg, was in the throes of a strike at the busiest time; the ground lost there in March was not fully recovered, the half-year's deliveries being 380,000 tons, against 408,600 tons in 1906. France and Holland, however, came to the rescue, the deliveries from Dunkirk showing an increase of 20,000 tons, and those from Rotterdam (supplying Western Germany) being no less than 25,000 tons, or 50% larger. Belgium, on the other hand, fell short by about 10,000 tons, the previous season's experience being thus entirely reversed, as the last-named country and Hamburg then showed large increases and Dunkirk and Rotterdam large decreases, compared, with 1905. The Italian and other Southern ports have remained practically *in statu quo*.

Not a single extra acre was brought into cultivation in Europe, and the beet crop did not require more nitrate (its principal user, in fact, taking less), yet, as we have seen, the port deliveries exceeded the previous season's, selling prices being at the same time considerably higher. The inference is that much of the nitrate "delivered" remains unconsumed, and confirmation is supplied by the circumstance that Dunkirk and the Belgian ports are put down for 38,400 tons last month (out of the European total of 74,680 tons) against 25,680 tons in June, 1906. Imports were in both cases very heavy, but the season was of course at an end, the deliveries in Hamburg, for instance, being only 18,600 tons, compared with 25,300 tons in June last year. The difference between "deliveries" and "consumption," so often insisted on in these columns, has perhaps never received a better illustration. The United Kingdom still plays a minor part as a consumer of the Chilian fertiliser, the increase of 7,600 tons in the half-year's deliveries raising the total to only 73,730 tons, yet the British farmer manages to grow the largest crops in the world.

The United States have again failed to display the insatiable appetite for nitrate of soda generally attributed to them, the deliveries in the past six months having been only 160,000 tons, against 188,000 tons in 1906. Short supplies are supposed to be the cause of this anti-climax, and a remedy is being tardily provided in the shape of larger shipments in that direction. Taking shipments as deliveries in the case of other minor outlets (Japan, the Sandwich Islands, The Cape, etc.), we get 18,680 tons, against 21,567

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tons last year. The world's total deliveries, January to June, 1907, therefore come out at 1,125,479 tons, compared with 1,127,047 tons in the corresponding six months last year, a somewhat inadequate result for the expenditure of about £40,000 on propaganda!

Production.—The output in Chili during the same period is officially given as 863,708 tons, against 830,021 tons in 1906 and 832,646 tons in 1905, the number of oficinas included in the returns having in the meantime increased from 107 to 126. Scarcity of labour and deficient water supply in the new Southern nitrate districts are the principal causes of this totally disproportionate expansion, but it must not be forgotten that whereas producers formerly used only fair-grade "caliche" or raw material, they now boil down a large proportion of "costra," or upper crust, yielding less nitrate. The extra quantity handled naturally involves an increase in the ratio of men employed to output obtained, yet it seems strange that only 152,718 tons of nitrate should have been produced last month, when 171,679 tons were manufactured in October under similar labour conditions. Again, only 677 tons more were produced in May last than in the same month in 1905, in spite of the addition of a score of producers with an unlimited supply of raw material. These are mysteries the secret of which is known only to those behind the scenes; the logical conclusion appears to be an eventual nitrate famine resulting from the numerous new works now in course of construction. It is nevertheless interesting to note that 19 oficinas, unbuilt two years ago, produced in May last 540,000 quintals out of the total Chilian output of 3,230,000 quintals. If men willingly risk their lives in the search for gold in inaccessible tropical and arctic regions, it will be strange indeed if they do not devise means to fully exploit equally valuable deposits within a stone's throw of the West Coast of South America.

Notwithstanding the scarcity of labour, ostensibly so deeply deplored, but in reality the safety-valve of the whole situation, all connected with the nitrate industry are enjoying a period of unparalleled prosperity. The producer, formerly well content with a profit of one shilling per quintal, is now making from two to three shillings, according to the quality of his grounds, or on an average over 100% on the prime cost of the manufactured article. A great deal is heard about the increase in cost of production through higher wages and dearer coal, but the advance is far outstripped by that in selling prices. The agents, who, besides selling the nitrate, supply all the requirements of the oficinas, are practically earning double commission, and importers now-a-days think nothing of a profit of 20s. per ton. Pluralist directors—in many cases agents—draw handsome fees, and the shareholders of moderately capitalised companies receive fancy dividends, the continuation of which in perpetuity seems somewhat prematurely to be taken for granted. In fact, the only non-participant in the nitrate millennium is the consumer who keeps the whole show going, yet does not count! His turn will come, however, as the present altogether artificial condition of the industry cannot be indefinitely prolonged.

The market can easily be rigged, but for some months to come nitrate of soda will be of little interest to the general consumer; there is, therefore, no occasion to enter into statistical details, beyond pointing out that the "visible supply" for Europe on June 30 was 291,460 tons, against 276,550 tons at the corresponding date in 1906, and that the "invisible" stocks are considerably larger than a twelvemonth ago. There is an increase of about 50,000 tons in stocks in Chili, and it is officially admitted that shipments will be heavier than last year; there are consequently, so far, no indications of a dearth of the Chilian fertiliser for next season.

MOTOR FUELS.

THE Fuels Committee of the Motor Union of Great Britain and Ireland, under the chairmanship of Dr. H. S. Hele-Shaw, F.R.S., which was appointed in September, 1906, "to inquire into the recent alarming rise in the price of petrol, and to report what steps, if any, can be taken to protect the interests of the private consumer," has now completed its labours. The work done by the committee is of considerable importance, and their report, which was presented to the members of the General Committee of the Union, at Southport, on Saturday last, contains many valuable facts and figures. The Union hope shortly to issue the report in its complete form, when it will include various appendices, among which will be found the evidence of the various witnesses examined, a bibliography of fuels for internal-combustion engines, and a brief description of the fuels mentioned in the report.

An important conclusion arrived at by the committee is that, owing to the demand for petrol increasing at a greater rate than its rate of increase of supply, a famine in this article may take place in the near future, and this view is supported by eminent authorities on the subject, whose opinions are quoted in the report. It is, of course, probable that new and unexpected sources of supply may be opened up, but geologists, who can speak on this subject with more assurance than in the case of most other mineral products, hold out very little hope of this.

As the demand for petrol continues to increase, it is well to consider, in view of the above-mentioned possible shortage, the introduction of efficient substitutes for petrol. The Committee have carefully considered the alternative fuels available, and have examined many witnesses on the subject, and they are of opinion that the one affording the greatest promise is alcohol, the supply of which is practically inexhaustible. The restrictions to its use, however, owing to the heavy duties imposed by the Excise authorities, and its present cost of manufacture, have prevented its general adoption as a fuel for power purposes in the United Kingdom. In other countries, such as France and Germany, the Government encourages the production of this spirit.

The great obstacle in the way of securing a reduction in the restrictive tax on alcohol is the view of the Excise authorities that such a step would be accompanied by the illicit use of alcohol for potable purposes; but it is pointed out that the use of an efficient denaturant would overcome this objection.

The report states that in use alcohol compares very favourably with petrol, and a comparison of the respective merits of these two fuels is given. Other possible substitutes for petrol which have been considered by the committee are heavier spirit, paraffin, naphtha, and benzol, but, in the opinion of the committee, the supply of these when exhausted, cannot be replaced by any known process, whereas alcohol, being derived from vegetation, may be produced in any desired quantity.

The following is a summary of the recommendations of the committee:—

(1.) That, being of opinion that the introduction of alcohol as a fuel in the future is by far the most promising substitute for petrol, they recommend:—

(*a*) That steps be taken to remove the restrictions on alcohol.

(*b*) That a prize be offered for the best essay on alcohol as a fuel.

(*c*) That trials be held to test the comparative merits of alcohol and petrol.

(2.) That the use of heavier spirit be encouraged.

(3.) That efforts be made to modify the present restrictions on the use and distribution of petrol.

(4.) That competitions for paraffin carburetters and vaporisers be organised.

(5.) That benzol, being a home production and more economical in use than petrol at the present time, be encouraged for use in motor-cars.

(6.) That a standing Fuels Committee of the Motor Union should be appointed for the purpose of giving effect to these recommendations.

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CHEMICALS, ETC., IN SPAIN.

CADIZ.

MR. CONSUL A. KEYSER reports that the beet-sugar factory near Jerez has stopped work, the probable cause being arrangements with competitors in the sugar trade.

A trust has been recently formed in Paris under the name of "Cuivre et Pyrites," with a capital of 20,000,000 fr., in order to amalgamate the interests of the San Platon Mines with those of three other mining companies. Thus three important concerns will control practically the whole production of cupreous and iron pyrites in the Huelva province.

The sale and export of salt is the principal business in Cadiz. The production for 1906 may be put at 120,000 lastres. A lastre is 2,200 kilos. or about 2⅛ tons. The exports amount to about 85,000 lastres.

A "Concierto Salinero," an association established by all the salt merchants and exporters of this district, which had existed for twenty years, was broken up in February, 1906. Soon afterwards a new one was formed, called "Union de Fabricantes de Sales." A considerable number of salt growers and exporters remained out, with the result that keen competition ensued, causing prices to fall. For this reason the union lasted only six months and then dissolved. Since that date there has been no method for regulating the prices and keeping them high. The present prices are from 16 to 18 pesetas a lastre free alongside. But it is not anticipated that these will continue, since some growers, who have not established markets, are selling their salt at the "salinas," and will in future cease its production. Thus, with a shorter supply prices will certainly rise.

The pottery of San Juan, at Seville, merits attention as an instance of British commercial enterprise. In 1898 the pottery was acquired by its present owners, who rebuilt and fitted it up with machinery from the United Kingdom. The village of San Juan de Aznalfarache, situated on the right bank of the Guadalquivir, about three miles below Seville, is entirely supported by these works, where about 300 people are employed. The pottery finds a market in the peninsula, the Canary, and Balearic Islands. The work is supervised by British managers and the coals used come from Scotland. The ball clay, china clay, and china stone are imported from the South of England. The colours, cobalt and borax also come from the United Kingdom.

The new process for the extraction of oil is the patent of a French inventor named Tanquerel, who, having protected his rights in Spain, offered the patent to a group of capitalists interested in the production of oil in this district.

The process consists in extracting the oil by diffusion in a specially prepared water after the olives have been crushed. After witnessing experiments made in Algiers under the direction of the inventor, it was decided to try the process in an oil factory in Carmona, and a machine described as a diffuser was set up there, and a trial was made with the only olives then available, which happened to be of inferior quality. The season was far advanced, the fruit had been deteriorating since it had been gathered, and more time was lost preparing the apparatus. A brilliant oil of excellent quality was obtained, but the quantity fell far short of the expectation of the merchants, who, by this time, had offered to buy the patent if the trials were such as the inventor promised. He himself, after visiting the factory, declared that the low yield was due solely to the organic decomposition of the fruit experimented with; and it was therefore decided to postpone further experiments until the following season.

There are openings for nearly all British trades in the country, as there is always a market for cheap foreign goods appearing as something new. Novelties seldom come from the United Kingdom, and it is rarely that attempts are made to catch the public eye or to cater for foreign taste.

CORDOBA.

Mr. Vice-Consul Carr reports that the output of silver lead has been lower than previously, but the declared value was higher owing to the enhanced value of the peseta. Cerro Muriano is the only productive copper mine. A dressing plant and smelter are expected to be erected by the end of the year. An attempt is again being made to open up some antimony lodes near Copiel in view of the present high price of the metal. The owners are endeavouring to interest British capital in their mines. The wolfram mine at Montoro has increased its production from 64 tons in 1904 to 117 tons in 1906. The production of bismuth has risen from 4 tons in 1904 to 92 tons in 1906. The mines are owned by a British syndicate. The iron mines in Solobral have proved practically worthless, the quantity of available ore being very small.

The British smelter was short of ore last year owing to a falling-off in the production of the Linares mines. The French smelter at Peñarroya continues to forge ahead, the output for last year amounting to 48,000 tons of pig-lead and 2,347,260 ozs. fine silver. The ores smelted come from the provinces of Cordoba, Badajoz and Ciudad-Real.

Another bad year for olives has to be recorded, and the next crop has been jeopardised by severe frosts last winter and drought. The following has been the production during the last six years:—

Year.	Quantity. Gallons.
1906..	5,942,750
1905..	4,836,194
1904..	5,553,438
1903..	7,335,504
1902..	5,894,526
1901..	15,432,000

The production of ores in the province during 1905-06 was as follows:—

Class of Ore.	District.	1905. Quantity	1905. Declared Value.	1906. Quantity.	1906. Declared Value.
		Tons.	£	Tons.	£
Silver-lead	Santa Eufemia.	545	5,100	526	6,857
	Alcaracejos....	11,742	89,780	10,254	94,652
	Fuente Obejuna	4,577	30,160	4,173	34,512
	Villanueva de Cordoba....	20	32	..	..
	Montoro	90	213	125	440
	Posadas	1,010	8,955	983	9,469
Total.....	..	17,984	134,240	16,061	145,930
Zinc blende (argent)..	Posadas	6,471	9,928	7,142	11,756
Copper pyrites.....	Cordoba	301	1,320	860	6,285
Antimony	Espiel	..	..	10	53
Wolfram	Montoro	73	466	117	2,071
Bismuth	Conquista	26	400	92	1,655
Iron	Luque	33,650	3,580	9,720	1,195
Grand total....	..	58,505	149 931	34 002	168,945

Exchange, 28·40 pesetas = £1., average of year.

HUELVA.

Mr. Vice-Consul Bice reports that manganese ores also show a large increase, and in the earlier part of the year high prices ruled; in fact, it appeared that some consumers were compelled to pay almost any price in order to supply their requirements. The period under review has been an extremely important one for the mining industry of Huelva, owing to the high prices obtained for all ores, and great activity has ruled.

The Esperanza mines have been floated by a British company. The Campanario mine has been purchased by a French company, and the San Platon mine by a foreign firm. The prospectus of the Anglo-Spanish Mining Company, which aims at acquiring a group of copper mines in this district, has also been published recently. A Spanish company, Sociedad Anonima de Cobres de Nerva, with a capital of 20,000,000 pesetas, is now being formed to work a group of copper mines in the neighbourhood of Nerva. A trust has recently been formed in Paris with a capital of 20,000,000 fr. for the purpose of amalgamating the interests of the San Platon mine and three other mining companies.

PORTLAND CEMENT PRODUCTION IN JAPAN.—It is reported that the exports of Portland cement during 1906 showed a large increase, being 37,917 tons, as against 16,114 tons in 1905. This increase was principally due to the exceptional demand for cement from San Francisco after the earthquake and fire of April; but, although this demand may not be maintained in the future, the development of Manchuria and Corea will undoubtedly tend towards an increased export of cement from the Shimonoseki district. The two principal cement companies having works there are the Onoda and Asano. The former are situated at Onoda, 30 miles to the east of Shimonoseki, while the Asano works are at Moji. The annual producing capacity of each is 200,000 barrels.

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Parliamentary Jottings.

HOUSE OF COMMONS.

FACTORIES AND WORKSHOPS INSPECTION.

On the 18th inst., in Committee of Supply, on the vote for the Home Office, the Home Secretary (Mr. H. Gladstone) in reviewing the work of his department, observed that it must be a matter of great satisfaction to the Committee that His Majesty had intimated his intention of establishing a medal for gallantry in saving life in mines. Passing to the report of the inspectors of factories and workshops, he said he regarded it as a report of great interest, a proof of the admirable work done by the official staff, but also of the heavy and perhaps the excessive labour of the present staff of inspectors. The one thing disturbing to his mind was the increased number of accidents. This matter necessarily attracted, and would continue to receive, serious attention. To what the increase was owing was to some extent a matter of speculation. Partly it was perhaps due to an increased use of mechanical power and increased number of factories, and partly to the improved method of reporting accidents. Among the general causes suggested was the less active supervision by employers consequent on their being covered by insurance. This was always one of the dangers which it was foreseen might accompany legislation on the lines of the Workmen's Compensation Act, and without attributing any special blame to employers, it was but human nature that there should be a relaxation of vigilance when there was no financial responsibility. On the other hand, on reading the report it was evident that some of the inspectors were impressed, he would not say with increasing, but continued carelessness on the part of the men. Constant familiarity with danger appeared to blunt the sense of danger; and that in itself created a trade danger which the Home Office understood, and as far as possible endeavoured to provide against. It was recognised that there must be continued and increased diligence on the part of the inspectorate.

Perhaps it would be well that he should mention a certain number of subjects discussed last year so as to show that the Government had been giving to them the promised attention. Among these was the question of poisoning by aniline, and by nitro and amido derivatives of benzene; a committee had been inquiring into that matter, and such poisoning had been added to the schedule of the Workmen's Compensation Act. The work of Commissions and committees had imposed very serious labour upon the department, and last year's legislation had materially interfered with their energies. The department was responsible for adding nine Acts to the Statute-Book, including the Workmen's Compensation Act, and other Acts of minor importance, which had entailed great labour. After summarising the work done on the industrial side of the department in issuing regulations, circulars, and orders, he said it was intended to start an inquiry into the conditions of labour in places where a high degree of humidity was combined with a high degree of heat. An inquiry which had taken place into an important accident in a match factory showed that the accident was due to causes which originated before the special regulations were brought into force. A return of accidents arising from poisoning was now available early in each year for the whole of the preceding year.

Last year, with the sanction of the Treasury, he increased the factory department staff by adding four inspectors, three lady inspectors, and four inspectors' assistants. He thought that was not bad for a start. The staff at present comprised 110 senior rank men; 13 lady inspectors; 5 inspectors or assistant inspectors for textile purposes; and 40 inspectors' assistants; making a total of 168. That was a large body, but when one remembered that there were 106,000 factories in the country, and considered other figures relating to their field of work, it was clear that a staff of 168 persons, however zealous, could not possibly cover the multifarious duties cast upon them under the Factory and Workshops Act. Not only was the field too wide for the labourers to deal with, but year by year the work was increasing in complexity and in difficulty. Year by year the need made itself felt of men of the highest possible intelligence, qualification and training. A further increase was necessary in justice to the staff and in justice to the industrial population. The chief inspector was preparing detailed statistics with regard to the five main divisions into which the country was divided, and the 47 districts into which it was subdivided, in order to arrive, as far as possible, at an accurate idea of what was essential at the present time. He had already a scheme under consideration for additional lady inspectors. The friendly consultations he had had with the Treasury encouraged the hope that there might be a substantial increase in the number of inspectors on the staff. He did not think the record of the year was a bad one, the work of the department showing an increase of 20%.

Sir C. Dilke, referring to phosphorus poisoning in the match trade, said we had proceeded in this country in recent years to hold ourselves up to other nations as being able to put an end by scientific apparatus to all industrial poisoning without forbidding the use of the dangerous ingredient itself. That applied both to phosphorus and to lead. He noted the fact that at the International Conference at Berne the statement was made by our Government that, as regards the prohibition of yellow phosphorus in matches, "France, Germany, Holland, Denmark, and Switzerland had already taken this step, and Italy had now decided to do so. In the United Kingdom reliance was placed upon special rules, and revision of these was now under consideration." The fact that we had had to revise the rules showed that we had not reached, in the phosphorus trades, a satisfactory position, and the case as regards lead was much stronger indeed. He went on to deal with the question of lead poisoning in the Potteries, deploring the increase in fatal cases among adults and the mortality among the infants of mothers engaged in trades in which lead was used. Some Government departments, he regretted to say, no longer insisted in their contracts that leadless glaze articles should be supplied.

Mr. Ramsay MacDonald asked that more power should be given to assistant inspectors under the Home Office, and that the wall dividing them from the higher grade of the inspectorate should be broken down. He also criticised adversely the character of the examination which the inspectors were required to pass, and he declared that the organisation of the Factory Department had forfeited the confidence of the trade unions of the country. There should be an inquiry into the matter and into the administration of the Factory and Workshops Act.

Mr. Herbert Samuel, who replied upon many of the points which had been raised, admitted the lamentable fact that the cases of lead poisoning increased last year; nevertheless they were fewer by 50% than the cases reported some years ago, and it was possible that then all the cases that occurred were not known. The Home Office was certainly not going to relax its efforts to stamp out industrial diseases, and a code of safety regulations was shortly to be issued for trades in which lead poisoning might be feared.

Mr. Gladstone, replying to a question which Mr. Akers-Douglas asked, stated that Messrs. Kynoch had given an assurance to the Home Office that they would discontinue the use of mercuric chloride in materials supplied for the department. He assured Sir C. Dilke that the officials would do everything they could to discourage the use of lead in the manufacture of pottery, and, touching upon the subject of life-saving appliances in mines, he expressed the opinion that as these appliances had not yet been perfected, the Government would not be justified in insisting upon their adoption. Answering Mr. Ramsay MacDonald, he refused absolutely to appoint a committee of inquiry into the administration of the Factory Department, for, in the first place, such inquiry was not necessary, and, in the second place, it would discourage the staff and impede the good work that was being done.

CHEMICALS IN JAVA.

In his report on the Trade and Commerce of Java for 1906, Mr. Consul Rose states that quinine was still far below the parity of bark. When bark prices stiffened the quinine also rose in value, but, unless the manufacturers sold the sulphate in advance, the year must have proved unprofitable to them.

The year's production of copra was small, and prices advanced steadily. Exports for the last four years have been:—1903, 15,155 tons; 1904, 21,391 tons; 1905, 95,173 tons; 1906, 45,406 tons.

The production of indigo shows a great decrease. In 1905 the figures were 769,993 lbs., in 1906 only 409,419 lbs. Most of it was sold locally, while the exports were principally to Japan. Out of 26 indigo estates, 13 have stopped producing. Tin also shows a falling-off. Shipments of Government tin were 9,807 tons as against 11,749 tons in 1904, while private tin was 1,935 tons as compared with 2,237 tons of the previous year.

Imports of fertilisers have remained much the same; practically all the imported sulphate of ammonia has been obtained from Europe. The petroleum import was 1,097,905 cases of American oil and 1,166,122 of Sumatra oil. The production of Java oil was 1,994,689 cases, as compared with 1,967,124 cases in 1905.

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TURKISH TRADE IN 1906.

MONASTIR.

MR. CONSUL HEATHCOTE in his report on the trade of Monastir for 1906, states that, owing to a bad harvest, coupled with the unsettled state of the country, the quantities of exports have been considerably reduced. There has, however, been an increase in imports, as the numerous emigrants, who have left during the last few years, are remitting large sums of money to their families at home. This fact, coupled with the more regular payment of State employés, has set free large sums of money.

The import of Hungarian petroleum is increasing at the expense of Russian. Chemical products include acids in small quantities from Austria-Hungary, Belgium and France; matches from Austria-Hungary, Italy and Belgium; aniline and alizarine dyes from Germany; various dyes from Austria-Hungary, Belgium and Germany; starch from Austria-Hungary and France; drugs and medicines from Germany, France and Austria-Hungary (all quinine preparations from France); candles from Belgium and Turkey. Under this head German artificial indigo was first introduced in 1905, and drove out real indigo hitherto purchased from the United Kingdom.

The following shows the exports and imports during 1906:—

Exports.	Two Years' Average. £	1906. £	Country.	Per Cent.
Oil Seeds	156 ..	135	.. ..	—
Imports.				
Chemical Products	9,682 ..	9,200 ..	Belgium, France	—
			Germany, Italy,	—
			Aust.-Hungary	—
Oil	1,926 ..	3,680 ..	— ..	—
Petroleum	15,164 ..	13,248 ..	Hungary	40
			Russia	60
Salt	13,486 ..	13,800 ..	Turkey	—
Soap	17,480 ..	16,560 ..	„	—

BENGHAZY DISTRICT.

Mr. Consul Fontana reports that during the winter the sea overflows the waste tracts of land to the south-east of, and close to, the town, leaving deposits of salt which are extracted during summer. The salt, which is exported by the Administration of the Public Debt in sailing ships to Salonica and Beyrout, amounted to:—

Year.	Quantity. Kilos	Value. £
1905	8,000,000 ..	27,272
1906	6,000,000 ..	20,459

The principal imports during 1905-06 were:—

Country.		1905.	Value. £	1906.	Value. £
Canea, ...	Olive Oil, ...kilos,	540,000	1,600 ..	600,000,	20,600
Malta, Alexandria, ...	Petroleum ....cases,	10,000	3,000 ..	same as '05.	
Malta, France, Canea, Austria-Hungary, ...	Wine, Beer and Spirits, casks,	1,680	5,470 ..	1,260,	4 320
Malta, Tripoli, Italy, ..	Matches.....cases,	700	2,110 ..	600,	1,805
Misurata, Greece	Gunpowder, ..kilos,	8,000	10,400 ..	9 000	11,800

MANGANESE ORE IN RUSSIA.

THE Ministry of Trade and Industry has been approached by the Donets-Turiev and Russo-Belgian companies with a view to introducing an export duty on Russian manganese ore exported abroad, of 7¾d. a cwt. Such a duty would diminish the export of this ore, and would enable the metric works to increase their production of ferro-manganese for shipment to foreign markets. The price of manganese ore at Poti varied in 1906 from £1. 7s. 4d. to £1. 8s. 11d. a ton, whereas ferro-manganese fetched £10. a ton on exportation.

According to the Mining and Metallurgical Union of the South of Russia, the world's production of manganese averaged during the last three years about 870,969 tons a year. In 1903, 435,484 tons were exported from the Caucasus alone, exactly half the quantity required by the steel industries of all countries except Russia.

SALTPETRE IN RUSSIA—It is stated in a telegram from Tiflis that in the district of Ter, near the station of Nassran, deposits of saltpetre have been discovered.

THE FRANCO-BRITISH EXHIBITION, 1908.

THE Franco-British Exhibition of Science, Arts, and Industries was first proposed by the French Chamber of Commerce in London, towards the end of 1905, with the object of further increasing the commercial intercourse between the two countries. This proposal was received with so much approval on both sides of the Channel that the money necessary to ensure its successful organisation was readily subscribed. A site, comprising 140 acres, was taken at Shepherd's Bush, and the work of erecting the various buildings in connection with the Exhibition is now being rapidly pushed forward.

The Exhibition will be illustrative of every branch of science and industry, and as a similar exhibition has not been held in London since 1862, manufacturers will have the unique opportunity of showing in the British metropolis the progress made in every department of invention and industry since the middle of the last century. The arranging of each section will be relegated to a committee of experts on the various classes into which the exhibits are grouped. Manufacturers may therefore rely on their exhibits being displayed in the best possible manner, both from a commercial and artistic point of view.

The exhibits will be housed in twenty fire-proof buildings, the largest being the Engineering Hall, where every branch of the engineering trade will be represented. The Chemical Section is to be on an unprecedented scale, and will embrace applied chemistry, pharmacy, perfumery, the manufacture of paper, leather, tobacco, and matches, etc. General science, agriculture, different methods of transport, the liberal arts, and the textile trades, are a few of the other sections into which the Exhibition will be divided.

A special association has been formed to arrange for the representation of the French Colonies, and every endeavour is being made to ensure that the exhibits from the British Colonies shall be thoroughly representative of their class. Canada has already secured space to the extent of 120,000 square feet, and the manner in which the French Colonies are signifying their intention to exhibit shows a keen appreciation of the possibilities of the Exhibition.

Arrangements have been made by which the Central London Railway will extend their line to the grounds of the Exhibition, and the close proximity of existing railway stations will render it exceptionally easy of access. It is calculated that by the combined efforts of the various railway companies it will be possible to convey 800,000 persons to Shepherd's Bush in a single day. Other arrangements conducive to the convenience of visitors will be a system of commercial bureaux, where full information as to the locality and character of every exhibit can be obtained. By this means there will be a considerable saving of time and trouble in locating the display of any particular industry.

Although no Grand Prizes or medals will be granted, diplomas equivalent to such will be awarded exhibitors upon the report of an International Jury.

The Exhibition will be opened in May, 1908, and the allotment of space to French exhibits is being made by the Comité Français des Expositions à l'Etranger, 42, Rue du Louvre, Paris; and to those of British origin by the Franco-British Exhibition, 56, Victoria-street, London, S.W.

AUSTRALIAN CUSTOMS DECISIONS.

THE following are the principal decisions given in the recent decisions of the Australian Commonwealth with regard to the rates of duties levied on imported articles:—

Articles and how classed.	Rates of Import Duty.
Oil—Forminol—	
As oils in bulk, lubricating mineral ..	3d. per gallon.
Paints and colours—	
Golden sulphuret of antimony—	
As paints, dry colours, etc.	1s. per cwt., dry colour.
Malthoid roofing cement—	
As paints prepared for use	4s. per cwt.
Zinc oxide.—	
As paints, dry colours, etc.	1s. per cwt., dry colour.
Ukazone —	
As Insecticides, disinfectants, etc. ..	Free.

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Reports of Companies.

TASMANIAN COPPER COMPANY, LTD.

The report for the year to December 31 states that a net profit of £33,028. is carried to profit allocation account, after the payment of debenture interest and the provision of reserves for British and Colonial taxes. Of this net profit, £8,339. was transferred to debenture redemption fund account, being the amount necessary to pay off all outstanding debentures, and the balance of £24,689. is carried to the balance sheet, reducing the debit balance on general expenses account to £12,884., which, it may be reasonably anticipated, will be cleared off in the current financial year. The development and the increased value of the company's properties, both in Tasmania and South Australia, justify a forward policy, rendering the raising of additional capital highly desirable.

"SHELL" TRANSPORT AND TRADING CO., LTD.

The report for the year to December 31 last states that, including the balance brought forward and after providing for depreciation, management and other expenses, the balance standing to the credit of the profit and loss account is £392,370., out of which the preference dividend (absorbing £50,000.) has been paid, leaving a balance of £342,370. at disposal. The directors recommend that £70,000. be appropriated from this as a provision to cover such expenditure as may be required to make the company's steamers and installations comply with the agreements with the Royal Dutch Company. The dividend already paid is the maximum permitted for 1906 under these agreements. By the arrangements with the Royal Dutch Company the agreement between this company and M. Samuel and Co. for the management of the company's affairs is cancelled as from January 1, and proposals for the future management will be placed before the shareholders. The directors announce the registration in Holland of the Bataafsche Petroleum Maatschappij and the registration in the United Kingdom of the Anglo Saxon Petroleum Company, Limited. These two companies are those established by the Royal Dutch Company and this company to carry out the agreements, which they feel assured will prove to the advantage of the company. During the year the volume of products shipped by the Nederlandsch Indische Industrie en Handel Maatschappij was satisfactory.

ANGLO-SWISS ASBESTOS COMPANY, LTD.

The report states that, owing to the fact that the company at the date of this balance-sheet had not arrived at a revenue-producing stage, no profit and loss account has been shown. The mine returns show 1,367 feet of driving in the solid rock to have been accomplished. The asbestos has varied in length up to 5½ inches, the quality having been maintained throughout. It was then decided to begin stoping in some of the drives, and, as a result, asbestos has just begun to arrive on this side, 26 tons having already been received in London, and the mine manager advising that a further 42 tons should be ready by the end of June. The price realised for substantially the whole of the asbestos already received is equal to that realised for the first quality Canadian. Considering the future prospects of the mine, there are important decisions yet to make, and difficulties inseparable from mining to overcome. One of the most pressing questions which has lately arisen, influencing seriously the working cost, is that of machinery both for drilling and for crushing. There are on the property two waterfalls. A report on the power obtainable from the same is to be made by the mine manager this summer, and the possibility of making use of the water-power available is receiving serious attention, particularly as, should such be decided upon, the raising of further working capital might be necessary.

Adulterated White Lead.—It is stated that a recent importation of white lead, adulterated with barium, was described on the kegs as "Ground White Lead, reduced." The term "reduced" does not, in this case, sufficiently denote "adulteration" for purposes of the Commerce Act, and it is laid down that in future the percentage of barium, or any other adulterant in white lead, must be as clearly and as permanently shown on the coverings of the goods as the ordinary trade description applied thereto, and delivery is not to be permitted until this condition is fulfilled.

JAPANESE TRADE IN 1906.

HAKODATE.

In his report on the trade of Hakodate for 1906, Mr. Vice-Consul Forster states that the trade of Hakodate has shared in the prosperity consequent on the termination of the Russo-Japanese war. During 1906 the imports were £231,490., as against £112,507. in 1905, and the exports for the same period £850,257., as against £525,580. The increase would have been greater if S. Saghalien had not passed into Japanese hands.

The total quantity of kerosene oil imported during 1906 was 4,521,579 gallons, valued at £84,432., as compared with 2,860,580 gallons, valued at £50,177., in 1905. The import from the United States remained the same as in 1905, the increase being due to heavy imports from Borneo.

The principal countries to which sulphur was exported were as follows:—

Country.	1906. Quantity. Tons	1906. Value. £	1905. Quantity. Tons.	1905. Value. £
United States ...	18,983	62,032	17,082	52,586
Canada	761	2,532	756	2,093
Australia, ...	8,286	27,310	4,710	16,039
Total	28,030	92,474	22,548	71,318

Manganese is produced in large quantities at the Birika mines, in Shiribeshi province, between Hakodate and Otaru. Hitherto the supply has been consumed locally, a small quantity only having been exported through Yokohama. The output was greatly increased last year, and direct exports were made to the following places:—

	1906. Quantity Lbs.	1906. Value. £	1905. Quantity. Lbs.	1905. Value. £
Liverpool	514,708	405	—	—
New York	3,082,017	2,045	415,452	375
Antwerp	6,037,800	3,100	—	—

NEW REGULATIONS UNDER THE WORKMEN'S COMPENSATION ACT.

The Home Secretary has issued the following regulations as to examinations of a workman by a medical practitioner provided and paid by the employer under the provisions of the first schedule to the Workmen's Compensation Act, 1906:—

(1) Where a workman has given notice of an accident or is in receipt of weekly payments under the Act he shall not be required to submit himself, against his will, for examination by a medical practitioner provided by the employer except at reasonable hours.

(2) A workman in receipt of weekly payments shall not be required, after a period of one month has elapsed from the date on which the first payment of compensation was made, or, if the first payment is made in obedience to the award of a committee or arbitrator, from the date of the award, to submit himself, against his will, for examination by a medical practitioner provided by the employer, except at the following intervals:—Once a week during the second and once a month during the third, fourth, fifth, and sixth months after the date of the first payment of the award, as the case may be, and thereafter once in every two months, provided that where after the second month an application has been made to the county (in Scotland the sheriff) court or to a committee for a review of the weekly payment, the workman may be required, pending and for the purposes of the settlement of the application, to submit himself to one additional examination.

Post Office Changes.—Several postal changes came into force on July 1. For the future the charge for the return of undelivered parcels will be discontinued, and such parcels will be returned free of charge. Wherever practicable in the international service, the maximum sum for which a single letter or parcel to a place abroad can be insured will be raised from £120. to £400., and the scale of fees will be reduced. Arrangements are being made for a direct and cheaper service to the Argentine Republic. The British postal service in Morocco has been extended.

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Continental Notes.

IN the *Chemiker-Zeitung* for June 29, Emil Sauer continues his description of his process for the acidification of the wash with sulphuric acid in the manufacture of spirit, and points out in what respects he considers that his process is superior to others that have been brought forward. He claims that his method is much more easy to control than the lactic acid fermentation method, and that it satisfactorily fulfils its object in the working up of molasses as well as starchy materials.

In the same issue E. Wedekind writes on the production of zirconium carbide from zirconium ore. This is accomplished by heating the ore with finely divided carbon, but a very high temperature is necessary, and in the electric furnace about 1,000 amperes are required. When zirconium carbide is heated in a stream of nitrogen it does not give rise to a cyanide or a cyanamide derivative, but is converted into nitride; this, when fused with potash, evolves ammonia and leaves a residue, which burns when heated in the air.

Dr. P. Drawe describes a new laboratory drying apparatus for the rapid drying of small quantities of material for the purpose of analysis. It consists of a wide copper tube which passes horizontally through a bath of boiling water or other liquid. The material to be dried is introduced into this tube in a boat, and a current of coal-gas is passed over it, the gas being afterwards used to heat the apparatus.

In the issue of July 3, J. Fleischer and H. Frank give a simple and rapid method for estimating the amount of ether and alcohol in mixtures of the two liquids. The method consists in shaking the mixed liquid with petroleum spirit and water. The alcohol then separates in the lower layer with the water, and the ether in the upper layer with the hydrocarbon. By merely reading off the volumes of the two layers and deducting the volumes of water and petroleum spirit added, the volumes of ether and alcohol are at once obtained. Further, by taking the specific gravity of the aqueous alcohol, the amount of water in the alcohol used to make the ether-alcohol mixture can be calculated.

Prof. G. Kraemer writes at some length in the *Chemiker-Zeitung* for July 6 on the theory of the formation of mineral oil. He holds the opinion that petroleum deposits have been formed from vegetable and not animal matter, in much the same manner as moors are at the present time being formed. Oils resembling petroleum can be made by the dry distillation of both animal and vegetable matter, so that experiments upon these lines throw little light on the subject. The presence of nitrogen compounds is also no criterion, as they might as probably be derived from vegetable albuminoids as from animal ones. Of course there may have been some carcases of animals mixed with the vegetable deposits, but the amount of this constituent would be comparatively minute, as is the case in present-day moors and bogs. Kraemer, however, considers that the organic deposits from which the petroleum fields derive their origin were formed in the steep and narrow gulfs of glacial seas. The time required for the formation of these deposits and for their subsequent conversion into oil must have been immense.

In the issues of July 3, 6, and 10, there appears a series of contributions from Drs. F. Erban and A. Mebus, on the diazotisation of paranitraniline as sulphate.

The issue of the 6th also contains a paper by Dr. P. Heermann, on the specific gravity of tin chloride solutions. He has made a number of determinations between 10 and 15%, and between 20 and 30% Sn. The results agree well with those in Gerlach's table, but Heermann prefers to express the composition of the solutions in percentages of Sn instead of $SnCl_4 + 5H_2O$, as is done by Gerlach. The material used for the determinations was the technically pure salt made by Goldschmidt's process.

In the number for July 10, O. Kuhn discusses the question whether the laws of chemical combination are comprehensible without the atomic hypothesis, and he comes to the conclusion that they are not, and that the alternative theories that have been advanced by Wald and others are based on false mathematical reasoning.

H. Schlemmer describes two forms of glass still-head for laboratory use, but they are not constructed upon the scientific principles which characterise those that have been devised by Young.

In the issue of July 13 there is a description of the methods used in the Institute for Sugar-Industry in Berlin for the determination of the sugar in beet. The methods adopted are the alcoholic extraction methods, both with alcohol and water, by the processes of Pellet, Sachs-Le Docte and Primavesi.

There is also a description of an automatic montejus, and an account of the chemistry of milk during 1906.

The *Zentral-Blatt für die Kunstdünger Industrie* for May 21 contains articles on the following subjects:—The value of potash in agriculture and industry; northern bird guano; phosphate deposits in Arkansas; the farms of the Munich Refuse Utilisation Company; "Germanol"; some manuring experiments with the new nitrogenous fertilisers; and the use of compressed air in the analysis of superphosphates.

THE ROUMANIAN PETROLEUM INDUSTRY.

REPORTING on the trade of Roumania in 1906, Mr. Consul Wardrop observes that for the last five years petroleum has been the most important industry of Roumania, and it has made possible the general developement of industry, which seemed doubtful when the Industrial Law passed in 1887, by supplying fuel. The railways, the naval and mercantile fleet are worked by it, it checks the destruction of the forests, saves a large expenditure on foreign coal, guarantees fuel in case of war, lessens the dependence of the country on grain export alone for its prosperity, gives work to the people, taxes to the State, and traffic to the railways. The capital invested is chiefly German, and there is now no British company of any importance; about half the export hitherto has gone to France.

The total production of petroleum in 1906 was 887,091 tons, an increase of about 45% over 1905, when the production was 614,870 tons.

The following table shows the figures for the last fifty years:—

Year.	Quantity. Tons.	Value. Francs.
1857	257	11,000
1867	7,070	282,800
1877	15,100	604,000
1887	25,300	1,012,000
1897	110,000	4,400,000
1898	180,000	7,200,000
1899	250,000	10,000,000
1904	500,561	22,525,245
1905	614,870	27,669,155
1906	887,091	39,919,095
1857–1906	4,707,871	200,248,210

Note.—From 1857 to 1902 prices are calculated at 40 fr. per ton; from 1903 at 45 fr.

The only regions which produced more petroleum than Roumania in 1906 were:—

	Quantity. Metric tons.
United States	16,000,000
Russia	8,000,000
Dutch Indies	1,350,000

The following was the production of the refineries:—

	1905. Metric tons	1906. Metric tons.	Percentage of Increase.
Benzine ..	78,182	114,428	46
Lamp oil ..	153,499	221,683	44
Mineral oils ..	17,255	53,588	210
Residues ..	237,677	333,714	40

There is an increasing demand for residues for factories. The export in 1906 was 50% more than in 1905, and in 1905 33% more than in 1904.

	1904. Metric tons.	1905. Metric tons.	1906. Metric tons.
Crude gas oil, distilled, etc.	45,204	49,515	53,374
Refined (lamp oil) ..	78,270	118,134	196,631
Benzine	36,969	46,699	71,114
Total	160,443	214,348	321,119

Refined petrol thus shows an increase of 66.5% and benzine 52% over 1905. The benzine had mostly been sold for forward delivery, and did not, therefore, profit much by the high prices of 1906.

The United Kingdom was the chief purchaser of petroleum products, and took 28.4% of the whole export; but France and Germany took more benzine. It is interesting to note that the Argentine Republic and India were buyers, and that Germany, which has such a preponderant financial interest in the oilfields, bought only 15,565 tons of lamp oil. Constantza is the chief port of shipment (77%). Till 1898 crude alone was exported, but since then it has gone only to Austria-Hungary, while other

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countries take: United Kingdom, residues and solar oil, for gas-making; France, distilled, for making lamp oil (distilled is put under the heading of lamp oil because it contains 85 to 90% of the latter, the remainder being only coloured matter, which enables it to enter duty free as crude), and benzine. Roumania has profited by the misfortunes of Baku, and the increase in the use of motors.

The importance of liquid fuel for marine engines and other purposes is becoming more fully realised. Roumania is very favourably situated geographically, and the new sources of supply which are constantly being discovered seem to give justification for the belief that she may gradually gain a dominant position in this article, in which she is already unrivalled from the point of view of quality. Experiments made by the Service Maritime Roumain have shown that on every trip made by their steamers there is a saving of more than £40, due to the use of this fuel, besides the additional advantages of cleanliness, saving of space and fewer hands. The Roumanian naval and mercantile fleet is the only one which exclusively uses petroleum fuel. At the oilfields themselves there is a large demand for residues, and it is reported that one of the works burned 12% of its production of crude for want of residues, caused by lack of satisfactory means of communication.

The small refineries have closed as larger ones have opened, but the existing 23 establishments have enormously increased their output during the last two years. 1906 was a prosperous year for them, and they have begun making the more expensive products, such as paraffin and various oils. They need large quantities of sulphuric acid, and a State protected factory for this article has been started at Câmpina.

The paid-up capital invested in the Roumanian oilfields is said to be :—

Nationality.	Amount. Francs.
German	74,000,000
French	31,000,000
Dutch	22,000,000
Roumanian	16,000,000
Italian	15,000,000
American	12,500,000
Belgian	5,000,000
British	3,000,000
Other nationalities	6,500,000
Total	185,000,000
	£
Equivalent in sterling ..	7,400,000

Some 15 new companies or amalgamations have been formed in 1906, and the new capital is about £2,400,000. The nationality of the new capital invested in 1906 was :—

Nationality.	Amount. Francs.
French	22,500,000
German	16,500,000
Italian	7,500,000
American	7,500,000
Dutch	2,500,000
Belgian	2,000,000
Roumanian	2,500,000
Total	61,000,000
	£
Equivalent in sterling ..	2,440,000

The German "Steaua Romana" has a capital of over £1,500,000., and French investors are interested in it to the extent of £250,000. It paid a dividend of 8% in 1904–05, and 6% in 1906.

Phosphate Works in Japan.—H.M. Consul at Shimonoseki reports that a very interesting feature of last year's import trade at that port was the arrival of the first shipment of phosphate rock from Christmas Island. During the year a company, the Osaka Ryuso Kabushiki Kwaisha (the Osaka Phosphate Company), was formed with the object of manufacturing superphosphates for fertilising purposes. Phosphate works were established at Fuku-ura on Hikoshima, an island at the western entrance to the Straits of Shimonoseki; and the first shipment of phosphate rock from Christmas Island arrived on August 26, per steamship "Zingara." The amount imported during the year was 5,459 tons in quantity and £18,255. in value.

WOLFRAM AND TUNGSTEN.

THE experiments of Mushet, the inventor of the self-hardening steel process, were bitter disappointments to him, owing to the disregard of the steel trade for his invention. Self-hardening steel was for years looked upon coldly by the trades of Sheffield and Germany; now the United Kingdom, Germany, and the United States of America are scrambling for supplies. Production in the United Kingdom is slowly being increased.

The West of England tin mines are now giving more attention to these ores, and there are one or two concerns operating chiefly for wolfram. Cumberland has a wolfram mine at Carrock, and the supplies are stated to be improving. Mushet's attention was directed to this property some twenty-six years ago, but no practical work resulted. The Carrock Mines, Ltd., was formed in 1904, with a nominal capital of £12,000., and after some two years or so it went into liquidation, the mine, plant, etc., being advertised for sale. Since then the concern has changed hands, and a new company is about to be formed. New South Wales, Victoria, and Tasmania are producing increased tonnages. Prices are at present firm, and tending upwards.

The deposition of the ore is generally in the older rocks and in vein form; the vein stone—usually quartz—has the ore disseminated in small irregular patches, but crushing and dressing operations are costly.

It is reported that rich ores of Scheelite have been located in the Borrowdale ranges of Cumberland. These formations are chiefly volcanic, and are traversed by numerous veins. The Borrowdale plumbago or black lead mine is also to be further opened up. Lead, blende, barytes, and plumbago, with small quantities of copper ore, also arsenical pyrites, tungsten and antimony, are being raised in the Alston Moor and Lake Districts of Cumberland.

THE ROYAL COMMISSION ON CANALS.

AT the last meeting of the Royal Commission on Canals and Waterways, Mr. L. John Groves, engineer to the Crinan Canal, supplemented evidence given on a former occasion. He said since he described the main features of a proposed enlarged and improved canal, he had been instructed by the Caledonian Canal Commissioners to make a special survey. The estimate for a fresh-water canal with two locks was £745,000., and this sum would include the necessary works for a water supply. For a sea water canal with a single large regulating lock the cost would be £790,000. He had heard it said that the proposed canal would unfairly compete with and injure the traffic of the west coast railways, but that would not be the case. In his opinion the increase from the tourist and yachting trade would largely augment their revenue. Electricity would be used for lighting the locks and also for motive power. The proposed depth of the canal was 21ft.

Answering Sir John Brunner, the witness said he was of opinion that a canal company should own the land on either bank of the waterway and that wharves should not become private property.

Mr. Charles Puller Hogg, M.Inst.C.E., of Glasgow, described the Crinan Canal, which is nine miles long, and was opened for traffic in 1801. Between the Clyde and the West Highlands the canal gave a sheltered passage 85 miles shorter than the exposed route round the Mull of Kintyre. The present canal was not altogether out of date, but it laboured under many disadvantages which restricted its usefulness and prevented its revenue expanding with the increasing trade of the country. It was recommended that a new canal should be cut from Lock Gilp, passing to the west of the town of Lochgilphead, and then following very closely the route of the existing canal for two or three miles, after which the route would diverge and pass through Crinan Moss and the estuary of the river Add, and terminate in Loch Crinan. The new canal would be wholly in cutting, and no embankments would be required. The present canal would have to be closed from three to four years while the new one was being constructed.

Gas Light and Coke Company.—The directors recommend a dividend at the rate of £4. 8s. per cent. per annum for the past half-year, carrying forward a balance of £306,992. A year ago the dividend was at the same rate, with £210,481. carried forward.

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BEET-SUGAR PRODUCTION IN RUSSIA.

IN his annual report, Mr. Consul Smith (Kieff), states that the year 1906-07 produced, with 278 factories in operation, 1,286,456 tons of sugar, the largest quantity ever produced in Russia. The stock of sugar on hand was 100,386 tons, made up of 64,335 tons of the inviolable reserve, 10,079 of finished sugar, and 25,972 tons of products calculated upon the basis of white crystals. There will thus be an available supply of 1,386,842 tons, which is 257,810 tons in excess of the "nominal profitable production" stipulated for the year.

Of the afore mentioned 1,386,842 tons, 838,710 tons are for the home market and 112,903 for the inviolable reserve, the remainder being a "free reserve" available for export. The area under beet was 1,425,110 acres, giving a yield of roots of 142⅛ cwts. an acre, the yield, per acre, of 142.2 cwts. of roots, with an output of 13% of sugar, thus being 18.5 cwts. of sugar an acre.

In order to curtail the overproduction of sugar, Russia, in 1904, reduced the area under the cultivation of beetroot, but the restriction was of short duration, the area for 1905-06 showing an increase, over 1903, of 241,794 acres. The yield of roots has increased by 2,757,078 tons, and the production of sugar from 824,085 to 1,286,456 tons. The home consumption increases slowly, the last ten years' average being 40,323 tons, but 1906 shows an increase of only 21,984 tons. The average cash price upon the Kieff market for white crystals for the home market was £1. 7s. 9d. per cwt. during the first eight months, and £1. 6s. 1d. for the last four months. The fixed limit prices, £1. 8s. and £1. 7s. 1d. respectively, were exceeded on two occasions; at the end of October, when 32,258 tons were ordered to be taken from the "inviolable reserve" for the home market without paying the extra excise duty, and again at December 21st, when 64,516 tons from the "free reserve" were ordered to be put upon the home market, this increasing the quantity decreed by the Government for the home consumption by 96,774 tons, or to a total of 935,484 tons.

The actual quantity of sugar sold for home consumption in 1906 was 857,018 tons, made up of 567,286 tons of refined and 289,732 tons of white crystals, being 21,986 tons, or 2.6% more than in the previous year. The consumption for the last four years has been as follows:—

Year.	Quantity.	Increase.	Per cent.
	Tons.	Tons.	
1901-02	697,120	50,109	7.7
1902-03	721,787	24,667	3.5
1903-04	752,249	30,462	4.2
1904-05	835,032	82,783	11

The price of refined sugar upon the Kieff market showed a slightly downward tendency; for the first three months the price was £1. 15s. 10d. per cwt.; by the end of March there was a decline to £1. 15s. 3d. per cwt., and this price was maintained until the beginning of October, when there was a further drop to £1. 14s. per cwt., which held good until the first week of December, when £1. 13s. 3d. per cwt. was quoted, and this price held good until the end of the year.

The quantity of sugar exported from Russia in 1906, as given by the Association of Sugar Manufacturers, was 62,845 tons, a considerable decline when compared with the exports of former years. The following shows the different countries and the quantities exported to each during the last four years:—

	Quantity.			
	1906	1905	1904	1903
	Tons.	Tons.	Tons.	Tons.
Finland	5,352	18,461	34,421	97,823
Persia, Northern	50,579	50,890	51,685	63,575
Turkey	201	17,170	51,554	30,412
China	3,865	6,309	5,061	1,050
Afghanistan	200	248	315	530
Germany and Austria-Hungary (in transit) ..	2,627	4,120	26,905	43,044
Other countries	21	36	302	239
Total	62,845	97,234	170,243	236,673

The decrease in the export to Turkey—from 51,554 tons in 1904 to 201 tons in 1906—is ascribed by the Association of Sugar Manufacturers to the successful competition of the sugar of Western European countries, and principally from Austria-Hungary.

The markets of Western Europe are, through the Brussels Convention, closed to Russian-made sugar. The decline in the export trade, together with the increased production of the last campaign, shows that all is not well with the industry, and that, if a crisis is to be averted, steps must at once be taken to put it upon a sounder basis. Among the beet sugar producing countries Russia stands first as to the area of land under the cultivation of beet, second as regards the total area of roots, sugar, and number of factories, but lowest as regards yield of roots and sugar to the acre.

The trade of this district is most seriously affected by the shortage of railway rolling-stock, which is now unfortunately accepted as a chronic condition of affairs. During 1906 there was little or no improvement on the serious condition of 1905—by the beginning of 1906 the Russian railway system had to face 200,000 truck loads of goods lying at stations awaiting transport. This was aggravated by the preference which had to be given to the transport of grain to the famine districts, the return of troops from the Far East, and the carriage of fuel and raw materials to the various centres of industry. The sugar industry of this district alone requires sufficient rolling-stock to transport about:—Coal 516,129 tons, limestone 209,677 tons, beetroot 564,516 tons, raw sugar to refineries 435,484 tons, refined sugar for consumption 322,581 tons; total 2,048,387 tons.

In order to relieve this congestion, the Kieff Sugar Association in 1906 petitioned the Ministry of Ways and Communications to allow them to acquire their own rolling-stock, and to grant special rates to recoup them for the outlay of capital, etc. The Ministry could not agree to the proposal, and ordered 62 locomotives and 1,150 trucks to be sent to the relief of the South-Western Railway. By the middle of October the quantity of goods lying at the stations of the South-Western Railway equalled 24,000 truck-loads, and steps were then taken to ensure the grain, sugar, etc., being properly covered, and in December there were still 20,000 truck-loads awaiting transport.

Grave fears are entertained that the sugar industry is on the eve of a serious crisis. The immediate cause is said to be due to the fact that the Government, acting upon information communicated by interested speculators, ordered 64,516 tons from the free reserve to be put upon the home market last December in virtue of the conditions of the State control of the sugar trade. The result has been to bring down the market price from £1.6s. 2d., as fixed by the Ministry of Finance, to £1. 5s. 9d. and less per cwt. Serious consequences have followed this step. Buyers, who contract for sugar at the higher price, find it convenient to object to the poor quality or "the bad colour" of the sugar and refuse to accept delivery. The factories or sellers, now faced with a drop of 2s. to 2s. 3d. per cwt. and a glutted market, find it impossible to dispose of their products unless at a serious loss. This happening at the close of the manufacturing season, with large amounts payable for excise duty, the settlement with the planters for the roots supplied, as well as the approach of the annual settling for the goods supplied during the year, put many of the sugar factories to serious financial straits, and the general trade during the "contracts" or annual "fair" held during February (o.s.) was listless and depressed; money was scarce—a condition solely due to the stagnation in the sugar industry, which is the mainstay of the South-Western District of Russia.

THE SUGAR CONVENTION.—A white paper was issued on June 27th containing the text of the Foreign Secretary's despatch to the British Minister at Brussels on the 1st June respecting the International Sugar Convention, which was referred to by Sir Edward Grey in the House of Commons on June 8. In effect the despatch gives a year's notice to the contracting parties that the Government retire from the convention. It will be remembered that the Government came to the definite conclusion that the limitation of the sources from which sugar may enter the United Kingdom, whether by prohibition or by imposition of countervailing duties, is inconsistent with their declared policy and incompatible with the interests of British consumers and sugar-using manufacturers, and that consequently it will be impossible for them to continue to give effect to the provisions of the Convention requiring them to penalise sugars declared by the Permanent Commission to be bounty-fed.

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Analytical Notes.

THE ESTIMATION OF INDIGOTIN IN COMMERCIAL INDIGO.

C. Bergdiel and R. V. Briggs (*Journ. Soc. Chem. Ind.*) show that the factor employed by Bloxam in his method (*Analyst*, 1907, 99) yielded too low results, and that these results should be multiplied by 1.026. If the sulphated solutions are not purified there is an error due to the sulphurous acid present in the sulphuric acid; this also reduces permanganate and is determined as indigotin. When the solutions are purified by salting out with potassium acetate, according to Bloxam's method, there is a loss of indigotin of 4% to 6%. The titrations with permanganate must be made at high dilutions (1 in 10,000), otherwise the results are too high. Bloxam's method, owing to its low temperature, is unsuitable for factory work in India.

THE ESTIMATION OF PARAFFIN IN OZOKERITE AND CERESIN.*

J. Mercusson and H. Schlüter (*Chem. Zeitung*) state that a large proportion of commercial "ceresins" are adulterated with paraffin. Ozokerite can be freed from tarry and other impurities by being heated to 180° C. with contentrated sulphuric acid, as in the manufacturing process, and the purified product is ceresin. For the detection of paraffin in ceresin, the method of Ulzer and Sommer (*Analyst*, 1906, 31, 119) has the drawback that the refraction of pure ceresins varies within wider limits than asserted. The authors have examined samples with refractions of 17.1 to 17.8, which would permit of the introduction of a large proportion of paraffin. The method is based upon the fact that 55 to 66% of ceresin hydrocarbons are precipitated from their solution in carbon bisulphide by the addition of a mixture of ether and alcohol, whereas paraffins of every description remain in solution. Three grammes of the sample, freed from rosin, saponifiable matters, etc., are heated with 30 cc. of carbon bisulphide beneath a reflux condenser. The solution is cooled to 25° C. (the more ceresin present the greater the turbidity), and mixed with 300c c. of a mixture of equal parts of 96% alcohol and ether at 25° C. The precipitate is rapidly separated, washed with 25 cc. of the alcohol-ether at 25° C., and dissolved off the filter with hot benzene, the solution evaporated in a tared vessel, and the residue weighed. Since 60% of precipitate (a) corresponds to 100% of ceresin the amount of paraffin (p) may be calculated by means of the formula:

$$p = 100 - \frac{100a}{60} = \frac{5}{3}(60 - a).$$

A ceresin is regarded as adulterated when the amount of precipitate is less than 50% of the sample, as pure when it exceeds 55%, and as suspicious when it is between 50 and 55%. In the last case the mother liquor should be concentrated by evaporation, and the fresh deposit, which separates on cooling, collected. This process is twice repeated, so that, in all, four fractions are obtained, each of which is tested for paraffin by the method of Ulzer and Sommer (*loc. cit.*). In the presence of paraffin the last precipitations are crystalline, the appearance being quite distinct from the crystalline reflection in the case of the last fractions of pure ceresins. The optical refraction shows a marked decrease between the first and second fractions from mixtures of ceresin and paraffin, whereas with pure ceresins there is a gradual fall. Thus, a pure ceresin with refraction of 13.8 at 90° C. yielded a first fraction with a reading of 14.6 and a second with 11.0. The corresponding readings with a ceresin containing paraffin were 7.5, 16.7, and 6.9. An advantage of the method is that the amount of the first precipitate is approximately constant, even in the case of pure ceresins which differ widely from one another in melting-point and refractive power.

THE ESTIMATION OF WOOD SPIRIT IN ACETONE.*

F. W. Babington (*Journ. Soc. Chem. Ind.*) describes a method for discovering the amount of methyl alcohol in acetone. In this method the sample is distilled with boric acid, the quantity of boric ester distilling over being a measure of the methyl alcohol. The operation is as follows: Twenty-five cc. of the sample and two grammes of boric acid are placed in a fractional distillation flask provided with a tapped funnel, and connected with a condenser and trapped receiver. Twenty cc. of glycerol and 20 cc. of water are placed in the receiver, and the contents of the flask are distilled to dryness. When cool, 25 cc. of water are added through the tapped funnel, the distillation of this serving the purpose of washing the condenser. The glycerol solution of the boric ester is then titrated with $\frac{N}{2}$ sodium hydroxide solution, using phenolphthalein as indicator.

* *Analyst* abstract.

THE ESTIMATION OF FOREIGN MINERAL MATTER IN FEEDING STUFFS BY MEANS OF CARBON TETRACHLORIDE.*

J. Gram (*Chem. Zeit.*) recommends, for the sedimentation method, carbon tetrachloride in place of chloroform containing bromoform. Whichever liquid be used, however, the method is open to the objection that, in hard-pressed oil-cake, the whole of the sand is not separated in this way. Trituration with carbon tetrachloride will yield an additional 0.1 to 0.4%, but even then the results do not agree with those in which the ash is extracted with acid and alkali. The latter method, again, has the drawback that the silica in the husks of many seeds is only partially dissolved by the hot alkali solution, and the residue is thus determined as sand; whilst, on the other hand, any foreign calcium carbonate is dissolved by the acid and escapes estimation. From comparative analyses the author concludes that for strongly compressed meals the ash-extraction method is preferable, whilst for feeding stuffs containing husks rich in silica the sedimentation is more accurate. In the case of unpressed feeding-stuffs poor in silica, such as rye bran, the results obtained by either method are concordant.

* *Analyst* abstract.

TRADE OF HAYTI IN 1906.

REPORTING on the trade of Hayti for the year 1906, Mr. Consul-General Vansittart states that only 4,837,560 lbs. of guaiacum were exported as against 9 million odd in 1905, and 4,982,502 lbs. in 1904.

Import duties on soap, which were made payable in American gold by law of August 21, 1906, were changed by a decree of the President of the Republic, to take effect on November 1, 1906, to the duties existing previous to the law of August 21, viz., duties on soap to be paid in gourdes, national currency. This means that soap now pays 2s. instead of 8s. 11½d. per 100 lbs. The common soap is almost entirely imported from the United States, but there are three soap factories established in this Republic, one at Port-au-Prince and the others at Cape Hayti and Aux Cayes. Higher grade soaps, for toilet purposes, are imported from France. Very little comes from the United Kingdom.

There is a candle factory, as well as a match factory, in Port-au-Prince; but both candles and matches are largely imported from Germany.

During the last session of the Chambers, the following concessions were given to Haytian citizens:—(1) A concession to refine petroleum and to construct on the coast, or in the interior of the country, reservoirs to contain raw petroleum and its products. (2) A concession for the establishment of a manufactory to obtain the extract, or colouring substance, from campeche (logwood).

EXPLOSIVES FACTORIES AND MAGAZINES.—The annual report of His Majesty's Inspectors of Explosives, for the year 1906, states that no reason has been found to complain of any falling-off in the general condition of factories and magazines, and there has been no occasion for legal proceedings for any irregularity brought to light by inspectors to be instituted. Notwithstanding the large increase in the manufacture of explosives, the average number of deaths has greatly decreased since the passing of the Explosives Act, whereas the number of fatal accidents with explosives under conditions to which the Act does not apply appears to increase with the extension of trade. The number of magazines under continuing certificates and licence was 432, the same as the previous year. During the year 466 visits were made to magazines, and in very few instances serious defects or irregularities were found, the general condition of magazines throughout the kingdom being highly satisfactory. There were seizures at four magazines containing an unauthorised ingredient manufactured by Messrs. Kynoch Limited.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Dyestuffs. O. Imray. 15,664. July 8.
Manufacture of Metallic Sodium by Electrolysis. H. Baker and E. Haworth. 15,693. July 8.
Cement from Slag. Collos Portland Cement Co. 15,784. July 9.
Cement from Slag. Collos Portland Cement Co. 15,765. July 9.
Rust-preventing Paint. D. Everett, W. Percy, and F. W. Robinson. 15,793. July 9.
Soap Manufacture. M. R. A. Samuel. 15,809. July 9.
Soap Manufacture. Vereinigte Chem. Werke Akt.-Ges. 15,900. July 10.
Furnace for Roasting Sulphide Ores. H. Petersen. 15,941. July 11.
Aluminium Solders. H. D. Willey. 15,943. July 11.
Chlorine Derivatives of Methylene Ethers of Pyrocatechol Derivatives. H. S Wellcome and G. Barger. 15,987. July 11.
Nitric Acid Manufacture. W. Ramsey. 16,067. July 12.
Oxides of Nitrogen. W. Ramsey 16,068. July 12.
Sulphur-Salt Brick. C. J. M. Wyatt. 16,111. July 12.
Briquettes. J. J. Shedlock. 16,144. July 13.
Explosive Compounds. A. T. Cocking and Kynock. 16,157. July 13.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.

1906.

Cement. Boult. 16,184.
Colouring Matters Containing Sulphur. Johnson. 17,358.
Monoazo Dyestuffs. Ransford. 22,021.
Ammonia and Formic Acids from Cyanides. Johnson. 22,638.
Refining Mineral Oil by Fractional Distillation. Noad and Townsend. 22,305.
Dry Chlorinated Compound of Lime. Johnson. 24,101.
Gas Producers. Armstrong. 24,666.
Aminoacetopyrocatechin. Newton. 25,718.
Affecting Combination Between Alcohols and Fatty Acids. Twitchell. 25,747.
Rotary Kilns. Warren 26,875.
Electric Furnaces. Reynolds. 26,981.

1907.

Separating and Extracting Water from Mineral, Vegetable, and Animal Substances. Farbwerke vorm. Meister, Lucius, and Brüning. 10,024.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

An Electric Plant for Producing Chemical Reactions. I. Moscicki, Freiburg, Switzerland. British Patent, 14,259. (Date claimed under International Convention, January 17, 1906.)

The inventor observes that in the employment of alternating-current arc flames for chemical reactions, auxiliary means are employed with advantage, in order that with the low tension it may be possible to have a suitably greater distance than the normal between the electrodes. This invention relates to the technical carrying out of an arrangement by means of which it is possible, with relatively very low tension, to bridge over very considerable distances between the electrodes with the electric flame. It is, of course, not new to start an arc between two electrodes by applying a high-tension current so as to cause a spark to jump across the gap, and thereafter to maintain the arc with low-tension current. Also, in an arrangement of circuits heretofore proposed, two separate electrodes were inserted in a generating circuit, and were connected through coils and spark gaps with the secondary winding of an induction coil fitted with the usual condenser, but this circuit had for its object the production of successive and quick interruptions in the generating circuit.

The present invention is distinguished by the application to the electrodes in a generator circuit of the ends of the secondary winding of a transformer, which winding is also connected with another spark gap in parallel with the gap between the electrodes. The invention is further distinguished by condensers arranged in series with each spark gap, and by the arrangement between the electrodes and the generator circuit of devices for preventing oscillating discharges from reaching the generator circuit. The original specification, with the drawings, should be consulted.

Apparatus for the Electrolytic Production and Separate Collection of Gases. Jasper Wetter, 37 and 39, Essex Street, Strand, London. (Communicated by Elektrizitäts Akt.-Ges., vormals Schuckert and Co., Nürnberg, Bavaria.) British Patent, 17,981. August 10, 1906

The inventor claims:—In apparatus for the electrolytic production and separate collection of gases having an electrode formed by the walls of the electrolyte-receptacle and separated from the other electrode only by an insulated bell or hood mounted over the same, the combination of a receptacle-electrode having an upper part adapted to serve for collecting gas and to dip into the electrolyte, with an inner electrode arranged within a bell or hood and extending below the same to such a depth that electric current will not pass from the same to the upper part of the receptacle-electrode, and that consequently the generation of gas on the said part is prevented.

Improvements in Stirring Arms for Roasting Furnaces. C. Lean, Thanet House, Temple Bar, London. (Communicated by Maschinenbau Anstalt Humboldt, Kalk, near Cologne, Germany.) British Patent, 27,061. November 28, 1906

The inventor observes that in the case of the well-known multiple-storey roasting furnaces, raking-arms are employed for thoroughly stirring and moving forward the material being roasted, which arms are usually arranged on the right and left of the central column, that is, diametrically opposite one another, and are connected firmly with the stirring-shaft and yet detachably. Means enabling this arrangement to be employed have been proposed in the Specifications of Newton (6,931, 1905) and of Herreshoff (27,393, 1898). The necessity of having readily interchangeable stirring-arms is due to the arms breaking comparatively frequently, which is caused by the radial and tangential thrusts acting on the raking-arms, and it is very difficult to combine interchangeability with firm, secure attachment.

The proposal to form the two stirring-arms of a furnace-chamber as a single member passing across a diameter of the furnace interior and passing diametrically through the shaft has, in spite of some advantages, the serious disadvantage that the operation of interchanging stirring-arms which are twice as long and heavy as ordinary ones presents considerable difficulty. The object of the present invention is to remove this defect, and to provide means for attaching stirring-arms which, while giving the requisite security, permit them to be readily interchanged. The essence of the invention consists in forming each stirring-arm as a two-armed lever, and in so supporting it in or on the shaft that it can be disengaged when the shaft is stationary by giving it a slight movement in a plane substantially at right angles to the shaft in the direction in which the shaft normally rotates. The turning moment exerted on the stirring-arm in consequence of the resistance offered by the material being roasted is consequently taken up by the shaft, or when two stirring-arms are arranged in one furnace-chamber the turning-moments of two diametrically opposite stirring-arms neutralise each other.

Improvements in Electric Transformer Furnaces. O. Frick, Saltsjöbaden, Sweden. British Patent, 29,371. (Date claimed under International Convention, December 27, 1905.)

This invention is to effect, by means of an improved arrangement of the primary winding, an essential reduction of the primary leaking field and of the self-induction in the primary circuit caused by the leaking field, in order to obtain a more favourable value of the power factor of the supply circuit. The invention refers only to that type of transformer furnaces in which the iron core is arranged in such a way that its outer parts are so remote from the greater part of the primary coils and the bath, that they do not, or only to a small extent, enter the magnetic leaking fields. The primary leaking field surrounds the primary coil on all sides for a distance about equal to the distance between the coil and the middle of the secondary.

The invention consists in arranging the primary winding so as to enclose more than one side of the hearth. The primary winding may be divided in coils, which are separated from each other and placed at opposite sides of the hearth, or they may enclose the latter at two or more adjacent sides.

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Stock and Share List.

WEEK ENDING JULY 24, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO Thursday, July 18.	Friday, July 19.	Saturday, July 20.	Monday, July 22.	Tuesday, July 23.	Wednesday, July 24.
120,000	1	1	Bell's Asbestos ... ord.	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞
	Stock	100	Borax Consolidated 4½% deb. stock red.	109 111	109 111	109 111	109 111	109 111	109 111
80,000	10	10	Do. ... pref.	11¼	11⅜	11⅛ 11⅜	11⅛ 11⅜	11⅛ 11⅜	11 5/16
1,356,477	1	1	Bradford Dyers ... ord.	24/1½	24/- 24/3	24/- 24/3	24/- 24/3	24/- 24/3	24/-
1,500,000	1	1	Do. ... 5% c.p.	20/9	20/10½	20/9 21/-	20/9 21/-	20/9 21/-	21/-
35,000	10	10	British Dyewood ... ,,	4 4½	4 4¼	4 4¼	4 4¼	4 4¼	4 4¼
600,000	1	1	British Oil and Cake Mills ord.	12/6	12/7½	12.6 12/9	12/6 12 9	13/-	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	41/9	41/3	64/6	64/6	41/3	42/-
10,000	10	10	Do. ... 6% c.p.	12 3/16	12 3/16	25.6	25/6	12 3/16	12 3/16
1,472,154	1	1	Brunner, Mond, and Co. ... ord.	5¼ 5⅜	5¼ 5⅜	5 11/32	5¼ 5⅜	5 11/32	5 11/32
32 678	10	10	Do. ... 7% pref.	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜
96,000	5	5	Bryant and May ... c.p.	12½ 13	12½ 13	12½ 13	12½ 13	12½ 13	12½ 13
40.000	10	10	Buxton Lime Firms ... ord.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ,,	19/3	19/1½	19/1½	19/1½	19/1½	19/1½
450,000	1	1	Castner-Kellner ... ,,	25/3 25/6	25/3	25/- 25/3	25/- 25/3	25/-	24/6 25/-
16,000	5	5	Clayton Aniline ... ,,	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
12,000	5	5	Do. ... 6% c.p.	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3
20,000	10	10	Crosfield, J., and Sons ... c.p.	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27 6 28/6	27/6 28/6	27/6 28/6	27.6 28,6	27/6 28,6	27/6 28/6
5,000	10	10	Do. ... 6% c.p.	12 5/16 12 5/16	12 5/16 12 5/16	12 5/16 12 5/16	12 5/16 12 5/16	12 5/16 12 5/16	12 5/16 12 5/16
£15,223,235	Stock	100	Gas Light and Coke Co. ... ord.	96⅜	96½	95 97	96¼	96¼	96⅜
	10	10	India Rubber Co. ... ,,	15 16	15 16	15 16	15 16	15 16	15 16
	5	5	Lagunas Nitrate ... ,,	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	8	8	8	8	8	8
	5	5	Lautaro Nitrate ... ,,	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼
200,000	10	10	Lever Bros. ... 5% c.p.	10 11/16	10⅞ 11	10⅞ 11	10⅞ 11	10⅞ 11	10⅞ 11
400,000	10	10	Manchester Ship Canal ... ord.	23/-	23/3	23/6	23/-	23/- 23/6	23/- 23/6
400,000	10	10	Do. ... per 5% pref.	32/9 33/3	32/9	32/6 33/-	32 3	32/3	32.9
120,000	1	1	Mandleberg ... ord.	30/6 31/6	30/6 31/6	30/6 31/6	30,6 31/6	30/6 31/6	30/6 31/6
185,145	1	1	Mason and Barry ... ,,	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	1/6	1/6	1/6	1/6	1/6	1/6
110,007	10	10	Nitrate Railways ... ,,	12¼ 12¾	12¼ 11¾	12½ 13	12½ 13	12½ 13	12½ 13
228,540	10	10	Nobel Dynamite Trust ... ,,	15 9/16	15⅝	15½	15½	15½	15½
	10	10	Do. share warrants	15⅜	15½	15½	15½	15½	15 17/32
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/6	83/-	38/-	38/-	38/-	38/-
	1		Pears, A. and F. ... ,,	1⅜ 1½	30/-	1⅜ 1½	29/4½	1⅜ 1½	1⅜ 1½
70,000	10	10	Pease and Partners ... ,,	13 13¼	13 13¼	13 13¼	13 13¼	13 13¼	13 13¼
37,500	16	16	Price's Patent Candle ... ,,	33	33	33	33	32⅝	33
130,000	1	17/-	Pumpherston Oil, Ltd. ... ,,	9⅜	9½	9½	9½	9⅜	9⅜
10,000	10	10	Do. ... 6% c.p.	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
325,000	5	5	Rio Tinto ... ord.	81	80¾	82¼ 82¾	83½	82 11/16	81¼
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	5	5	5	5	5	5
239,479	1	14/2	Sadler and Co. ... ,,	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
200,000	4	4	Salt Union ... ,,	18/9	19/1½	19/3	19/3	19/-	18/7½
100,000	6	6	Do. ... 7% n.c.p.	£4/-	4½	4⅜ 4½	4⅜ 4½	88/-	4⅜ 4½
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛
	4	4	San Jorge Nitrate ... ,,	26/3	26/3	26/3	1¼ 1½	1¼ 1½	1¼ 1½
	1	1	Schibaieff Petroleum ... ,,	⅛ 3/16	3/16 5/16	5/16 5/16	5/16 5/16	5/16 5/16	5/16 5/16
£6,250,000	Stock	100	South Metropolitan Gas ...	121½	122	21/-	120¾	120 122	121
45,000	10	10	Steiner, F., and Co. ... 5% c.p.	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞
625,000	2	2	Tharsis Sulphur and Copper ... ,,	6⅝ 6⅞	6⅝ 6⅞	6⅝ 6⅞	6⅝ 6⅞	6⅝ 6⅞	6⅞ 7⅛
289,343	10	10	United Alkali ... ord.	81/9	82/-	82/3	81/6 82/6	82/-	81/6
282,524	10	10	Do. ... 7% pref.	11⅞	12	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12
80,000	1	1	United Indigo and Chemical ... ord.	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9	3/3 3/9
66,666	5	5	Willans and Robinson ... ,,	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝
210,000	1	1	Woolcombers ... 7% c.p.	21/- 21/6	21/10½	21/6 22/-	22/6	21/6 22/6	21/6 22/6
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.	1/- 2/-	1/- 2/-	1/9 2/-	1/- 2/-	1/- 2/-	1/- 2/-
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,	71/9	71/6	71/6	71/6	71/9	71/9

RUSSIAN PHOSPHORITE DEPOSITS.—The *Viestnik Finanssoff* publishes an article on the question of Russian phosphorite deposits. Anxiety has been expressed in Russia lest this valuable fertiliser should be sold in too great quantities to foreigners. The writer points out that the reserves in Podobia and Bessarabia are practically inexhaustible. The areas prospected for phosphorite have been found to contain the article in such quantities and in so many places that the writer of the article holds that there is no need whatever to impose a prohibitive export duty on the export. Hitherto the output has been limited because the home agriculturist did not appreciate its value, and the difficulties in the way of the export were too great, while even the removal of the export duty previously imposed did but little to assist that particular method of disposing of it. Considerable quantities are now used in the iron works. The writer cites a large number of districts, besides those named, where the article is found in abundance. There are several factories in Russia treating this mineral, the principal of which are the "Lovitch" and "Strzhemeschitsk," which are both essentially superphosphate factories, and the former handles as much as 300,000 poods annually. The production from 1899 to 1902 inclusive has been 884,473 poods, 1,434,704 poods, 840,000 poods, and 693,000 poods, whilst that for 1903 and 1904 respectively was 640,000 poods and 1,215,000 poods.

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Trade Notes.

THE BRITISH PHARMACEUTICAL CONFERENCE met in Manchester on Tuesday last, Mr. Thomas Tyrer presiding. The president's address dealt with matters of pharmaceutical interest and emphasised the importance of research. A number of papers were afterwards read, and a varied social programme was provided. It was decided to meet in Aberdeen next year.

GERMAN COPPER CONSUMPTION.—The *Information* publishes a message from Hamburg stating that, at a meeting of the Copper Industry Union of Germany, Herr Rhumkorff said, on the strength of information he had from the Ministry of the Colonies, Germany will soon be able to get all the copper required for her consumption from her own trans-oceanic possessions, without having recourse to the foreigner.—The statement has led the journal to analyse the German copper supplies situation, and it finds that Germany occupies the first position in Europe as a consumer of copper, and that she used 150,000 tons in the year 1906, whilst her production, limited almost entirely to the Mansfeld centre, amounted to about 42,000 tons. The United States sold her 108,000 tons last year, or a quarter of its total production, and yet she had to get 18,000 tons from other countries, such as England, Spain, Japan, etc. Obviously, Germany is expecting to get her copper from Damaraland, the acquisition of which, and the approaches thereto, nearly got her into trouble with the English in the past. Nevertheless, this reserve was left alone for many years on account of the difficulty as to ways of communication, for the price of copper then—*i.e.*, £40. to £50. per ton—was not sufficient to pay the expenses of making them. Now, however, the 600 kilometres of railway connecting the Otavi mines with the coast have been completed, and great efforts are being exerted to make a fine harbour of Swakopmund on the Atlantic, where the line terminates. But, surely, the production of Damaraland is over-estimated. To expect over a hundred thousand tons there is to ask as much as is got from Michigan, Arizona or Montana; whilst, according to the calculation of the Otavi Minen Gesellschaft, which is the only company seriously dealing with the Otavi deposits, it expects to get 7,000 tons of metallic copper yearly. The journal concludes:—The day appears to be far off when the copper-laden vessels from Swakopmund or Luderitz Bay will cause any anxiety to the producing centres of America.—*Financier and Bullionist.*

PATENT LAW AMENDMENT.—In opening a recent discussion on the patent laws, Sir Joseph Lawrence said that in the year 1818 a serious robbery took place in Plymouth Dockyard. His (the speaker's) grandfather was at that time in business in the port in supplying hardware and other goods to the Fleet. The Government offered a reward of £100. for a lock which could not be picked. His grandfather secured the reward, and thereafter devoted himself to the manufacture of locks and safes. That was an illustration of the very common case of a business beginning with and depending upon a patent. At the present time a very important and far-reaching Bill was being considered and was now in the Committee stage, and he gave the greatest credit to the President of the Board of Trade for what he was doing in regard to the reform of patent law. Sir Joseph Lawrence said that they did not ask for anything unreasonable, but simply for what had been a condition precedent to the grant of a patent monopoly ages ago, that a patentee should bring a new industry into the country and give employment to the people. They ask the Government to insist that if a foreigner took out a patent in this country he should come here and work it. Mr. Evans-Jackson said many of the patents were absolutely worthless. The only proper course, in his opinion, was to grant a patent to the man who applied for it, and on the terms he applied for it—namely, that he was the first and the true inventor.—Mr. Astbury, K.C., M.P., said that he believed the object of the President of the Board of Trade in the Bill now before Parliament was to encourage real invention; that when the invention was patented in this country it should be worked here for the benefit of this country; and that, if it was an invention necessary to many branches of an industry, the mere working of it by an owner of the patent should not be sufficient if those other branches of industry were handicapped by being unable to work it. In that case they should be entitled to have a compulsory licence from the patentee at a reasonable cost even during the first 14 years.

NEW YORK PRICES CURRENT.

JULY 10, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8½
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7¼
Ammonia, Carbonate, lump	,,	0 7½
,, Muriate, grey	,,	0 6¼
,, ,, white electrical	,,	0 6¼
,, Sal-ammoniac, white seconds	,,	0 9½
,, Sulphate, grey	per 100 lbs.	3 12½
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 30
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7½
Potassium, Bichromate	,,	0 8½
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 15
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10½
Sulphur, Brimstone (best thirds)	per ton	22 0

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, July 10, 1907.

(Rate of Exchange, $4.87½ = £1.)

Nitrate of soda remains somewhat dull, at $2.55. per 100 lbs. for spot, and $2.47½. for shipments. Sulphate of ammonia is unchanged at $3.07½ per 100 lbs. Grey muriate is going into the usual consuming channels at 6c. to 6¼c. per lb.; and white electrical muriate is somewhat cheaper, owing to the accumulated stocks, at 5¾c. to 6c. per lb. Lump sal ammoniac is 9¼c. for good white seconds. Lump carbonate of ammonia is steady at 7¾c. to 8c. per lb. Sulphate copper is held by the Syndicate at 7¼c. per lb., with some outside to be had at a shade under. White powdered arsenic remains very dull, and is fractionally lower, at 7¼c. to 7¼c. per lb. Red Saxony arsenic is steady, at 7¼c. per lb. Bleaching powders are slow of sale at $1.25. to $1.35. per 100 lbs., as to make. Alkali, 58%, in bags, is quoted at 9½c. per lb., f.o.r. makers' works. Caustic soda, 74%, is $2.05. per 100 lbs., same conditions. Carbonate of potash, 80-85%, 3¾c. to 3¾c. per lb., and hydrated, same test, 4¾c. to 4¾c. per lb. Chlorate of soda is 8½c. and potash 8¾c. for crystals, f.o.r. makers' works. Bichromates remain firm at the recent advance, and are generally quoted at 7¾c. for the first, and 8¾c. for the last. Prussiates are dull, soda being 9¼c. to 9¾c.; and potash, 15¾c. to 16c. Oxalic acid remains scarce, and in good demand at 8¼c. to 9c. per lb. for prompt, while antimony products all continue downwards.

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TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with values given at 8¼d. to 8½d. for 90's, and 9d. for 50-90's. Crude tar, 16s. to 20s. per ton Thames, 1⅛d. to 1⅜d. per gallon, delivered; refined tar, 12s. per barrel, Gas Company, 12s. 6d.; pitch, London, 26s. to 26s. 6d., f.o.b., Gas Company 30s. 6d., East Coast 25s. to 25s. 6d., West Coast 24s. to 24s. 6d.; next year 2s. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol 11½d., pure 1s. 8½d. to 1s. 9d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5⅝d.; 60%, 1s. 8d.; 75%, 1s. 11⅜d. to 2s.; crystals, 39-40, 5⅜d.; 34-35, 5½d. Cresylic, 95%, 1s. 1½d. to 1s. 2d. Anthracene, 40 to 45% A, 1½d. to 1⅝d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet, nearest values are:—Beckton, to end of year, £12. 2s. 6d., next year £12. 5s.; Beckton terms, £11. 13s. 9d.; London (outside makes), £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool ordinary, 11s., and refined, 11s. 3d. Official quotations—Cargoes off coast or due, 11s.; ditto for prompt shipment, 11s. 4½d.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £96. to £96. 10s. cash, and £88. to £88. 5s. three months. Tin: G.M. quality, £183. 10s. to £184. cash, and £182. to £182. 10s. three months; English, £186. Lead, soft foreign, July delivery, £21. 10s.; first half August £21. 5s.; August, £20. 10s.; September, £20. 7s. 6d.; October, £20. 5s.; English, £22. Spelter, ordinary brands, August, £23. 15s., ex ship; hard, £20., f.o.b. Antimony, £43. to £45.; ore, £10. to £10. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 16s. Nickel, £175. to £185. Pig-iron closing prices:—Standard, 57s. 6d. cash, and 57s. 7½d. one month; Cleveland, 58s. 10½d. cash, and 57s. 10½d. one month.

FERTILISER MATERIALS.

FRIDAY.

The markets for all fertilisers remain quite featureless, buyers being very apathetic, whilst on the other hand there is no pressure on the part of sellers to effect sales.

Both Tunisian and Florida phosphate rock continue to be firmly held at full prices, though no new business is reported.

Shippers of East Indian bone meal are very firm in their ideas, to-day's quotation, c.i.f. Liverpool, being still £5. 2s. 6d. per ton, nett cash, whilst sellers ask £5. 7s. 6d. to £5. 12s. 6d. per ton, ex store Liverpool. according to quality.

The market for nitrate of soda is without change at 11s. per cwt. for ordinary 95% quality, and 11s. 3d. per cwt. for refined, on spot.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

Business on the whole is fairly good for all descriptions of chemicals. In the alkali trade the works are well employed in all the principal departments. Bleaching powder has been sold heavily over 1908 at and slightly below the price of the current year: spot price stands at £4. 7s. 6d., f.o.r. and f.o.b. Chlorates are unchanged at 3½d. Caustic soda, 70%, £9. 15s., f.o.b. Alkali, 58%, is firm at £4. 10s. per ton, in bags, f.o.r. Soda crystals, 59s. to 60s. per ton, f.o.r. The price of sulphate of copper is rather easier for prompt, at £30. 5s., f.o.b. Saltcake is firm at 37s. 6d. to 40s. per ton, in bulk, f.o.r. Sulphur remains steady at £4. 17s. 6d. for best recovered, f.o.r. There is a general and good demand for acids. Acetate of lime is steady at £12. 10s. for 80%, c.i.f.; acetate of soda, £16. 15s.; white sugar of lead, £32., c.i.f. For acetic acid, pure and technical, there is continued good demand, but sellers are inclined to accept lower prices. White arsenic is steady, at £32. 10s. per ton. Carbonate of potash, 90%, £18. 10s., c.i.f.; caustic potash, 88-90%, £25. per ton. Prussiates of soda and potash are steady at 3¾d. and 6d. per lb. Muriate of ammonia, £24. 16s. per ton.

LIVERPOOL DRYSALTERIES.

THURSDAY

Palm oil in good demand, sales including Lagos at £31. on spot; and hard oils, August-September shipment, £29. 10s. per ton; olive oil steady and inclined to harden. Linseed oil quiet, at 26s. 6d. to 27s. per cwt. for Liverpool makes in export casks. Cottonseed oil in fair demand at 31s. 6d. to 32s. for Liverpool refined in export barrels. Rosin steady on spot, at 12s. for F; 12s. 1½d. for G; and common 10s. 10½d. per cwt. Turpentine steady, at 43s. 3d. per cwt. on spot. Tallow in better demand at 31s. to 34s. per cwt. for North American; South American beef, 34s. 6d., c.i.f. Liverpool; mutton, 35s. 3d. to 35s. 9d. per cwt.; Australian steady. Petroleum: Russian and Roumanian 6⅞d., and American refined at 6⅞d. to 7⅛d. per gallon. Petroleum spirit steady, at 1s. 1½d. to 1s. 3d. per gallon.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

Montreal potashes unchanged, with values nominal. Pearl ash quiet. Bark steady, with little demand. Berries quiet. Logwood and fustic steady, with little offering. Cutch quiet and unchanged. Gum arabic steady. Castor oil at 3⅝d. to 3¾d. for first pressure French; 3½d. for second pressure French; £3. 19s. 6d. for good seconds Calcutta. Gambier quiet: Block steadily held at 19s. to 19s. 6d.; May-June, June-August, and July-August shipments nominally 18s. Cubes on spot, 28s. to 28s. 6d.; July-August shipment 27s. 6d.; and August-September shipment at 27s. 9d. Shellac steady, with TN orange quoted 207s. on spot; American powdered starch, 10s. on spot, and 9s. 6d., c.i.f., for shipment; pearl, 9s. 4½d. on spot, and 9s., c.i.f., for shipment. Cream of tartar, 98%, foreign powder, 81s.; 95%, 79s.; Tartaric acid: English on spot, 11¾d.; foreign, 11d. Citric acid, English, 1s. 11½d.; foreign, 1s. 11¼d.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—The general situation in the trade as regards seed oils shows but little variation upon the same recorded a week ago, and in respect to linseed and cottonseed the markets have remained firm; but in the instance of linseed prices are quoted a trifle lower, and in cottonseed there is good business passing. Amongst the principal imports here to date, as against the same time a year ago, are:—Wheat, 2,228,274 qrs., against 2,263,920 qrs.; flour, 105,792 cwts., against 215,290 cwts.; linseed, 399,790 qrs., against 301,842 qrs.; rapeseed, 59,068 qrs., against 41,030 qrs.; cottonseed, Egyptian, 122,221 tons, against 103,702 tons, other kinds, 95,026 tons, against 78,620 tons; oilcake, 17,277 tons, against 24,796 tons; olive oil, 3,190 tuns, against 2,669 tuns; tar, 2,118 barrels, against 3,412 barrels. Amongst the weekly imports:—Lard, 3,787 cwts.; margarine, 2,532 cwts.; sugar, 32,318 cwts.; colours, 1,928 packages; hemp, 2,110 cwts.; oilcake, 171 tons; wool, 162,842 lbs.; hides, 1,124 cwts. Exports:—Oil, 9,314 cwts.; colours, 2,872 packages; chemicals, 1,972 packages. Linseed is from 3d. to 6d. lower on last week's prices. The quality of Calcutta is better than a year ago, showing a better yield of oil. Linseed oil continues to show signs of weakness, although nominally the same quotation, spot, 24s. 1½d., naked; July-August, 23s. 10½d.; September-December, 22s. 6d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—2 tons Germany, 4 Italy, 4 Norway, 3 Turkey; total, 13 tons. Cottonseed has continued firm, with old crop realising more money; July shipment making £8. 5s., and November-January, £7. 3s. 9d. paid. Refined cottonseed oil, 29s. per cwt., spot naked; November-April, 23s. 4½d.; casks £1., and barrels £1. 7s. 6d. per ton extra. Exports for the week:—156 tons Germany, 12 Holland, 3 Norway; total, 171 tons. Turpentine lower, 42s. 4½d., spot; Russian, ditto, 21s. 4½d. Rosins unchanged; olive and castor oils same.

CAKES.—Linseed cakes in good demand with firm market, Cotton cakes unchanged, with few fresh orders.

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TYNE CHEMICAL REPORT.

THURSDAY.

Chemicals continue unchanged with a fairly steady demand. Caustic soda, 70%, £9. 15s., and 76-77% £10. 10s. per ton. Bleaching powder quiet, at £5. to £5. 5s. per ton. Soda crystals unaltered, at £3. to £3. 2s. 6d. per ton locally. Sulphate of soda firm, at £2. to £2. 2s. 6d. per ton. Sulphur scarce, at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett, do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market very strong with a full inquiry, and loading turns for gas and steam coals are fully booked for some little time ahead. Bunker coals are also very firm, and coke keeps steady, with a good demand for blast furnace and foundry qualities.—To-day's quotations:—Best Northumbrian steam, 15s. to 15s. 6d. per ton; second qualities, 14s. 3d. to 14s. 6d. per ton; Northumbrian small coals, 10s. to 10s. 6d. per ton; best gas coals, 14s. 6d. to 15s. per ton; Durham bunker coals, 12s. 9d. to 13s. 6d. per ton; coking coals, 13s. 6d. per ton; household coals, 15s. to 17s. per ton; foundry coke, 24s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

Sulphate of ammonia, Leith and Glasgow deliveries, is in a very quiet condition; inquiry is rather languid, and is almost wholly confined to spot business. Value, however, holds very steadily at £12., f.o.b. Leith, or a fraction over, the cause probably being that makers are well sold forward, and in no urgent need of new business. Sulphate of copper remains uncertain, and, there being no very brisk inquiry, value tends still a little to the losing side. The heavy chemicals are quiet, due partly to the holiday feeling, but prices continue steady at recent figures. Drysalteries are only in moderate demand, but with little or no change in quotations.

Chief prices current are:—Alum (in lump) £5. 5s. to £6. nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s. nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b., Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b., Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16.; and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace) 2¼d., naked, f.a.s., Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2⅛d.; and soft, 2⅛d. to 2¼d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3¼d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¼d.; ordinary sorts, 6d. and 5¾d., open market prices for spot business at Glasgow and other big centres; ditto (lubricating) 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; and 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42., and £40. less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s. nett Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £30. 17s. 6d. to £31., less 5% Liverpool, prompt.

New Companies.

British-Bitumen, Ltd.—Capital £3,000., in 1,950 preference and 1,000 ordinary shares of £1. each and 1,000 deferred shares of 1s. each. This company has been formed to adopt an agreement, the parties to which are not named, to acquire the processes, patents, undertaking, rights, etc., comprised therein, and to carry on the business of miners, bitumen, mineral and metal workers and merchants, etc. No initial public issue. The first directors are T. D. Owen and E. A. Harvey. The holders of the deferred shares may appoint one director. Registered office, 44, Southampton Buildings, Chancery-lane, W.C.

British Carbide Factories, Ltd.—Capital £15,000., in £1. shares. This company has been formed to exploit any chemical and electro-chemical processes, and to carry on the business of manufacturers of and dealers in carbide of calcium, etc. No initial public issue. The first directors are H. Compton, A. Howard and A. Akers; qualification £200. Registered office, 178, Tower Bridge,road, S.E.

J. Harrison Carter, Ltd.—Capital £25,000., in £1 shares (10,000 preference). This company has been formed to take over the business of milling and general engineers, carried on at Dunstable and at 82, Mark-lane, E.C., as J. Harrison Carter, and to adopt an agreement with C. W. Cornish, Ann Carter, G. Carter, T. H. Brinton and D. Hack. No initial public issue. The first directors are G. Carter (managing director) and C. W. Cornish; remuneration of managing director £500. per annum, with a further £20. for every 1% dividend in excess of 5% on the ordinary shares; of C. Cornish £75. per annum, and a further £10. for every 1% dividend in excess of 5% on the ordinary shares. Registered office, Engineering Works, Dunstable.

Naversberg Falum Copper Mines and Works, Ltd.—Capital £100,000., in £1. shares. This company has been formed to acquire certain mines and properties in the province of Dalarne, Kopparbergslan, Central Sweden, and to carry on the business of miners, smelters, refiners, etc. No initial public issue. The first directors are J. Lee and G. C. Eedes. H. Keiller is entitled to act as local consulting director at Falum or elsewhere (or to nominate an approved substitute) subject to holding £5,000. fully paid shares; qualification £200.; remuneration £100. each per annum (£50. extra for the chairman) and 10% of any surplus profits in excess of the amount required to pay 10% on the ordinary shares. The B shares take all the available profits after a non-cumulative dividend of 10% is paid on the A. Registered office, 25-35, New Broad-street, E.C.

New Agglomerates, Ltd.—Capital £5,000., in £1. shares. This company has been formed to acquire and develop an invention for the manufacture of agglomerated fuels and briquettes, to adopt an agreement with C. E. George and A. E. Tavernier, and to carry on the business of colliery proprietors, fuel manufacturers, etc. No initial public issue. The subscribers are to appoint the first directors; qualification 5,000 shares; remuneration £100. each per annum and 10% of the profits available for distribution, divided. Registered office, 63, Tunley-road, Balham, S.W.

Petroleum Development Company, Ltd.—Capital £15,500., in 15,000 ordinary shares of £1. each and 10,000 deferred shares of 1s. each. This company has been formed to acquire any lands, farms, properties, mines, and minerals, bituminous, oil and other properties in Africa or elsewhere, and to carry on the business of petroleum, oil, bitumen, and general miners, refiners, explorers, prospectors, etc. No initial public issue. The subscribers are to appoint the first directors; qualification 100 deferred shares; remuneration £150. each per annum, and 10% of the surplus profits after 20% has been paid on the ordinary shares, divided.

Platinum Corporation, Ltd.—Capital £300,000., in 297,500 ordinary shares of £1. each, and 50,000 deferred shares of 1s. each. This company has been formed to acquire platinum, platinum-gold, and gold concessions in any part of the world, and for the purpose of working the same, to vest them in the Anglo-Russian Platinum Mining Co., Ltd., or any other limited or other company formed to work or capable of working the same under such terms as to the issue to this company of all or part of the shares of such company, or its nominees, or otherwise as may be thought fit,

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and to adopt agreements (*a*) between V. I. Shaiduroff, A. I. Shaiduroff, J. A. Barham, J. Seed, H. Claudius Ash, and E. A. Ash; and (*b*) between J. Seed, H. Claudius Ash, and E. A. Ash; and (*c*) between J. Seed, J. A. Barham, H. Claudius Ash, and A. E. Ash; (*d*) between V. I. Shaiduroff, A. I. Shaiduroff, H. Claudius Ash, and H. E. Ash; (*e*) between H. Claudius Ash, A. E. Ash, and J. Seed; (*f*) between H. Claudius Ash, A. E. Ash, and A. D. Schwarz; (*g*) between H. Claudius Ash, A. E. Ash and this company; (*h*) between this company and the Anglo-Russian Platinum Mining Co., Ltd.; and (*i*) between this company and the Share Guarantee Trust, Ltd. Minimum cash subscription 50,000 ordinary shares. The number of directors (other than local directors) is not to be less than two nor more than six. The first are Sir Ernest Clarke, Kt., R. Hewitt, H. Claudius Ash, A. E. Ash and J. Seed; qualification £200.; remuneration £200 each per annum (chairman £100. extra). Directors may not borrow beyond amount of issued capital without sanction of general meeting. Registered office, 4 and 6, Copthall Avenue, E.C.

Simplex Industrial Producer Gas Plants, Ltd.—Capital £600., in £1. shares. This company has been formed to acquire from C. H. Schill the benefit of certain existing inventions and processes relating to gas producer, hydrogen gas and suction gas plants and the working thereof, and to adopt an agreement with C. H. Schill, G. S. Aveyard, A. Denton and B. R. Rowland. No initial public issue. The first directors are B. R. Rowland, A. Denton and G. S. Aveyard; qualification £50. Registered office, 78, King-street, Manchester.

Svano Copper and Sulphur Mines (Norway), Ltd.—Capital £15,000., in 25,000 preference shares and 5,000 deferred shares of 10s. each. This company has been formed to carry on the business indicated by the title. No initial public issue. The subscribers are to appoint the first directors; qualification, 100 preference shares; remuneration £75. each per annum (£25. extra for the chairman). Registered office, Gresham House, Old Broad-street, E.C.

Val de Flores Tin Mining Syndicate, Ltd.—Capital £2,000., in £1. shares. This syndicate has been formed to carry on the business of tin and general miners, explorers, prospectors, metallurgists, dealers in minerals, etc., and to acquire from S. G. Latham, the receiver appointed by Baron Armstrong and A. W. Stallard, trustees under an indenture dated August 11, 1905, executed in their favour by the Tin and Amblygonite Mines, Ltd., and from the trustees certain properties and rights in Spain referred to therein, with a view to further prospecting and developing the same.

Widin Copper Syndicate, Ltd.—Capital £20,000., in £1. shares. This syndicate has been formed to take on option, acquire, examine, protect, develop, maintain and work any leases, claims, concessions, alluvial deposits, mines, minerals, ores, mining rights and properties in any part of the world. No initial public issue. The subscribers are to appoint the first directors; qualification £100. Registered office, 88, Bishopsgate-street Within, E.C.

Societe des Colles et Gelatines Francaises.—Capital £48,000., in 2,400 shares of £20. each. This company has been formed to erect at Chauny, near the St. Gobain works, to make crystal gelatines and osseine; also to acquire the existing works at Nanterre, from Messrs. Roy and Co., and to extend the output there of skin gelatines and thin-sheet gelatines. The directors nominated include Mr. O. Murray. Qualification, 40 shares. London offices: 53, Gracechurch-street, E.C.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending July 13.

Acetic Acid—

Holland,	4 cs.	J. Barber & Co.
,,	38 pks.	R. W. Greeff & Co.
Norway,	38	Weber, Smith & Hoare
Holland,	23 cks. 25 brls.	W. H. Muller & Co.

Acetone—

A. Hung.,	£400	F. A. Tye
Germany,	740	P. F. Knowlden
,,	47	Pickfords, Ld.
,,	361	Stein Bros.
,,	420	P. F. Knowlden

Albumen—

U.S.A.,	£12	Armour & Co.

Alcohol (Methylic)—

U.S.A.,	4,700 g.	P. F. Knowlden
,,	1,947	F. A. Tye
,,	8,806	Juett & Cain

Aluminium—

Belgium,	20 t.	B. & F. Wf. Co.
Germany,	1	Prop. Hays Wf.
France,	2 c.	G. T. Symons & Co.

Aluminium Sulphate—

Holland,	£40	Ohlenschlager Bros.
,,	25	R. W. Greeff & Co.

Ammonia (Anhydrous)—

U.S.A.,	£700	Simpson, Spence & Young

Ammonium Muriate—

Holland,	£205	H. Lorenz

Antimony Ore—

A. Turkey,	14 t.	

Antimony Sulphide—

France,	£24	H. Johnson, Son & Co.

Amyl Acetate—

Holland,	£26	T. H. Lee

Argols—

Spain,	98 cks.	Thames S. T. & L. Co.
France,	224 bgs.	,,
Italy,	241	B. Jacob & Sons

Arsenic—

Germany,	£30	L. & I. D. Jt. Co.
Portugal,	180	G. S. N. Co.

Asbestos—

Canada,	98 t. 9 c.	Deering & Robottom
Natal,	10	L. & I. D. Jt. Co.
N. Russia,	£94	P. Claydon & Co.
Italy,	280	Pickfords, Ld.
U.S.A.,	92	Lunham & Moore

Barytes—

Germany,	26 cks.	T. H. Lee
,,	24	London & Rhine S. Office
,,	43	W. Harrison&Co.
,,	300 bgs.	Burrell & Co.
,,	542	Luke & Bailey
Holland,	44 cks.	Taylor Bros.
,,	23	O. Lechla
,,	117 100bgs.	Felton & Crepin
,,	16	,,
,,	48 c.	J. D. Budd
Belgium,	500	Felton & Crepin

Basic Slag—

Belgium,	253 t.	Anglo Cont. Guano Wks.

Bismuth—

N.S.W.,	1 c.	H. Grey, Jnr.

Bleaching Powder—

France,	15 t.	E. J. White
,,	23	R. Waters
Holland,	170	Anglo Cont. Guano Wks.
,,	14	W.H.Muller & Co.
France,	860 cs.	Hunter, Lowes & Fraser

Bog Ore—

Holland,	124 t.	W. Hawkins & Co.

Bone Meal—

E. Indies,	200 t.	Hunter, Lowes & Fraser

Boracic Acid—

France,	£218	Burton, Baker & Co.

Borax—

France,	15 t.	Burton, Baker & Co.

Calcium Carbide—

Sweden,	10 t.	M. Dk. Co.
France,	60	J. Harrison

Camphor—

Belgium,	£42	J. Cockerill Line
Germany,	110	Slann & Davis
,,	55	F. C. Devon & Co.
U.S.A.,	290	Leach Bros.
China,	40 cs.	Praschkauera
,,	100	Prop. Hay's Wf.
Germany,	2	,,

Caoutchouc—

Straits,	4 t. 16 c.	S. Figgis & Co.
,,	1 6	Props. Bull Wf.
,,	3 4	Prop. Hay's Wf.
,,	2 5	Props. Bull Wf.
,,	3	L. & I. D. Jt. Co.
,,	2 19	R. J. Henderson

Caoutchouc—

Ceylon,	6 c.	M. P. Evans & Co.
,,	17	Lavington Bros.
,,	14	Dickson & Co.
,,	£12	Hoare, Wilson & Co.
,,	8	Prop. Hay's Wf.
,,	26	L. & I. D. Jt. Co.
,,	1	Weber, Smith & Hoare
,,	17	Prop. Hay's Wf.
,,	32	J. A. Hadden & Co.
,,	1	Rowe, White & Co.
Aden,	5	Wallace Bros.
,,	3 c.	Baxter, Hoare & Co.
France,	2 t. 5	Clarke & Smith
,,	7 6	Prop. Hay's Wf.
,,	17 3	S. Figgis & Co.
,,	2 10	L. & I. D. Jt. Co.
,,	11	W. Brandts, Sons & Co.
U.S.A.,	7 cks.	Stiebel & Bros.
,,	6	L. & I. D. Jt. Co.
,,	£12	Major & Field
E. Indies,	2 t. 5 c.	Props. Bull Wf.
,,	1 4	Lewis & Peat
,,	3 3	Prop. Hay's Wf.
,,	4 3	W. H. Smith & Sons

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Caoutchouc—
Germany, 3 t. 10 c. S. Figgis & Co.
" 2 Prop. Hay's Wf.

Castor Oil—
Belgium, 50 brls. Fuerst Bros.
France, 3 28 cs. L. & I. D. Jt. Co.
Italy, 70 F. Boehm
France, 30 Lucas & Spencer's Wf.

Caustic Potash—
Germany, 20 dms. J. N. Steel & Co.
" 3 Wilkins, Campbell & Co.

Chalk (French)—
France, £10 Symons & Co.

Chemicals (*otherwise undescribed*)
Germany, £17 Prop. Hay's Wf.
Belgium, 7 Leach & Co.
" 9 Wilkins, Campbell & Co.
" 9 United S. Co.
" 13 J. Cockerill Line
" 7 J. Harrison
Holland, 9 A. Zumbeck & Co.
" 60 T. H. Lee
" 17 R. W. Greeff & Co.
" 24 W. H. Muller & Co.
France, 5 Mory & Co.
" 20 J. Owen
" 13 Van Dam & Co.
Germany, 140 R. W. Greeff & Co.
" 306 T. H. Lee
" 18 M. Dk. Co.
" 103 M. & R. Collyer
" 8 H. Lorenz
" 129 Argo S.S. Co.
" 537 A. & M. Zimmermann
" 39 L. & I. D. Jt. Co.
" 6 R. Hermann
U.S.A., 2,123 R. W. Greeff & Co.
" 400 B. & F. Wf. Co.
Japan, 8 Wilkins Campbell & Co.

Cinchona Bark—
Holland, 11 bls. Litchfield & Soundy

Citrate of Lime—
Italy, £975 Thames S. T. & L. Co.
France, 90 B. Jacob & Son

Citric Acid—
Germany, 18 bgs. L. & I. D. Jt. Co.

Coal Products—
Aniline
Belgium, 8 cs. P. & O. S. N. Co.
" 7 pks. J. Cockerill Line
" 5 Friend & Co.
" 8 cs. H. Ortelli
Germany, 5 pks. L. & I. D. Jt. Co.
Carbolic Acid
Holland, 99 cks. J. Owen
Tar
N. Russia, 100 brls. Dussek Bros. & Co.

Copperas—
Germany, £100 Petri Bros.

Copper Ore—
Straits, 70 t. H. Grey, Jnr.
" 100 Branderis, Goldschmidt & Co.

Cottonseed Oil—
U.S.A., 30 brls. Weber, Smith & Hoare
Egypt, 650 t. Produce Brokers Co.

Cream of Tartar—
Holland, 9 cks. T. H. Lee
Germany, 7 Prop. Hay's Wf.
France, 20 W. C. Bacon & Co.
" 4 30 kgs. B. & F. Wf. Co.
Holland, 8 Kearsley & Tonge
" 3 W. H. Muller & Co.
France, 8 Vokins & Co.
" 84 pks. F. C. Devon & Co.

Dextrine—
Holland, 7 t. J. Barber & Co.

Disinfectants—
France, £40 Mory & Co.

Dyestuffs (*otherwise undescribed*)
Denmark, 1 brl. Pickfords Ld.
France, 40 Mory & Co.

Dyestuffs—
Annatto Extract
Denmark, 1 tank G. C. Sorensen
Cochineal
Canary Is., 2 bgs. L. & I. D. Jt. Co.
Cutch
Burmah, 300 bxs. Union Ltge. Co.
" 250 J. W. Cook & Co.
Divi Divi
E. Indies, 483 bgs. Flack, Chandler & Co.
" 403 2 pkts. H. J. Perlbach & Co.
Fustic
Canada, 47 t. Everingham & Co.
Gambier
Straits, 215 bgs. S. Barrow & Co.
" 255 brls. L. & I. D. Jt. Co.
" 335 H. Grey, Jnr.
" 247 Dalton & Young
" 255 J. Greig
Indigo
E. Indies, 14 chts. F. J. Nathan & Co.
" 10 H. J. Perlbach & Co.
Fustic
Belgium, 2 cks. J. Cockerill Line
Myrabolans
E. Indies, 1,000 pkts. E. J. Winser & Co.
" 4,000 Wrightson & Son
" 2,924 S. Barrow & Bros.
Quebracho
Argentine Rep., 200 bgs. J. Graves
Sumac
Italy, 200 bgs. L. & I. D. Jt. Co.
" 450 J. Kitchin
" 350 Fisher, King, & Co.
Tanners' Extract
A. Hung., 52 brls. Boutcher, Mortimore & Co.
Canada, 56 "
Belgium, 10 cks. Leach & Co.
Tanners' Bark
A. Hung., 52 brls. Boutcher, Mortimore & Co.
" 68 F. Claydon & Co.
France, 65 "
Natal, 20 t. Sollas & Sons
" 20 Blyth, Green, Jordain & Co.
Turmeric
E. Indies, 155 bgs. Erith & Dartford L. Co.
Valonia
A. Turkey, 10 t. Humphreys, Percival, Ellis & Co.
" 10 Berestord & Co.
" 20 Boutcher, Mortimore & Co.
" 10 A. E. Piggott
" 23 F. Claydon & Co.
" 15 Adam Bros.
" 151 A. Brooksbank & Sons

Ether (Sulphuric)—
Germany, 6 cs. Burgoyne & Co.

Ethyl Chloride—
France, 1 cs. Staveley & Co.

Explosives—
Blasting Gelatine
Germany, £375 Alliance Ex. Co.
Dynamite
Germany, £625 Alliance Ex. Co.

Farina—
Holland, £100 J. Barber & Co.

Felspar—
Sweden, £60 P. Heydemann

Formaldehyde—
Germany, £24 Millwall Dk. Co.

Gelatine—
Belgium, £18 C. Atkins & Nisbet
France, 135 Mory & Co.
Holland, 13 W. H. Muller & Co.
Belgium, 15 J. Cockerill Line

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glue—
A. Hung., £246 Stienhoff, Sons & Co.
Holland, 210 T. H. Lee
France, 200 L. & I. D. Jt. Co.
" 42 T. W. Duche & Sons
" 122 J. Harrison & Co.
" 30 Bennett S.S. Co.
Belgium, 101 J. Cockerill Line
" 764 T. W. Duche & Sons
France, 10 Murray & Co.
Germany, 505 L. & I. D. Jt. Co.
Holland, 23 Duche & Sons
" 71 W. H. Muller & Co.
Belgium, 14 Barr, Moering & Co.
France, 94 O. Murray & Co.
A. Hung., 1,210 L. & I. D. Jt. Co.
" 750 P. Saner & Sons
Holland, 67 Hernu, Peron & Co.
France, 34 G. T. Symons & Co.

Glue Stock—
Italy, 6 t. 6 c. H. C. Staples
Belgium, 8 10 Erith & Dartford L. Co.
" 10 D. C. Thomas & Son
" 1 16 Boutcher, Mortimore & Co.
Victoria, 4 8 W. Nesbitt

Glycerine—
Belgium, 595 H. Hill & Sons

Gold Ore—
Natal, 40 t. Maritime L. Co
Holland, 1 H. Grainger

Gutta Percha—
Straits, 14 t. 10 c. Weber, Smith & Hoare
Germany, 5 Argo S.S. Co.
Straits, 50 H. W. Jewesbury
" 10 10 L. & I. D. Jt. Co.
" 10 10 Props. Bull Wf.

Infusorial Earth—
Germany, £200 Deering & Robottom

Iodine—
Germany, £3,136 L. & I. D. Jt. Co.

Iron Bromide—
Germany, £175 A. & M. Zimmermann

Iron Chloride—
Holland, — Van Dam & Co.

Lead Acetate—
Germany, £216 J. Barber & Co.
" 160 Bryce & Rumppf

Lead Nitrate—
Italy, £33 H. Johnson, Sons & Co.
" 33 Middleton's Wf.
Germany, 242 Taylor Bros.

Linseed Oil—
Holland, 25 brls. Fenner & Co.
Germany, 114 Knowles, Spencer & Son

Lithopone—
Holland, 140 cks. J. D. Budd
" 100 A. Zumbeck & Co.

Magnesia—
Germany, £53 Craven & Co.

Magnesite—
Holland, £29 S. Taylor & Sons
" 25 Phillipps & Graves

Magnesium Chloride—
Germany, £133 Fuerst Bros.
" 36 J. F. Ebner

Manganese Ore
Belgium, 30 t. G. S. N. Co.

Manure—
France, 20 t. J. Carter & Co.

Ochre—
France, £131 J. Harrison
" 127 S. Rowley

Olive Oil—
France, 1 t. P. Minter & Co.
" 12p gls. Litchfield & Soundy
" 373 15 t. L. & I. D. Jt. Co.
" 76 Pickfords, Ld.
" 126 P. Minter & Co.
France, 21 t. 198 bls. F. Boehm

Olive Oil—
Italy, 50 bls. N. R. Collyer
" 200 Pickfords, Ld.
" 50 J. Knitt & Co.
" 126 L. Perroni & Son
" 189 A. C. Lloyd.
" 126 Stebbing & Co.
" 3 t. "
" 1 Beck & Pollitzer
Holland, 151 gls. Lucas & Spencer's Wf.
A. Turkey, 126 F. Boehm
Italy, 30 E. Lloyd & Co.
" 20 B. Manzi
" 45 R. H. Hall & Co.
" 130 Beaaloy & Co.
France, 50 Hernu, Peron & Co.

Oxalic Acid—
Holland, 2 cks. Petri Bros.

Plumbago—
Germany, 36 cks. B. Galloway
Ceylon, 483 brls. Threddor, Sons & Co.
" 131 G. R. Haller
" 120 brs. France, Fenwick & Co.

Potassium Bichromate—
Holland, £150 J. M. Steel & Co.

Potassium Carbonate—
Belgium, 10cks. 2 kgs. Charles & Fox
Canada, 8 brs. "

Potassium Chlorate—
Italy, 20 kgs. Sparks, White & Co.
Sweden, 130 G. Boor & Co.

Potassium Iodide—
Japan, £100 L. & I. D. Jt. Co.
" 260 R. Warner & Co.
" 350 W. M. Smith & Sons

Potassium Oxalate—
Holland, 3 cks. W. H. Muller & Co.

Potassium Permanganate—
Holland, 52 cks. Craven & Co.
Germany, 72 H. Lorenz

Potassium Prussiate—
Germany, 6 cks. F. Boehm
Belgium, 11 J. Owen

Paraffin Scale—
U.S.A., 100 t. L. & I. D. Jt. Co.
" 43 H. Hill & Sons
" 390 18 c. Anglo American Oil Co.

Potassium Sulphate—
Germany, 50 bgs. Charles & Fox

Paraffin Wax—
Germany, 19 t. 14 c. H. Hill & Sons
U.S.A., 63 11 Mordaunt Bros.
" 30 10 L. & I. D. Jt. Co.
" 12 17 H. Hill & Sons
" 88 18 Anglo Amer. Oil Co.

Quinine—
Holland, 20,000 ozs W. H. Muller & Co.

Red Lead—
Belgium, 38 cks. J. L. Lyon & Co.
" 4 B. & F. Wf. Co.
Holland, 3 Hemingway & Co
" 5 F. T. H. Nye
" 7 J. Graves
" 80 T. & W. Farmiloe

Ripolin—
Holland, 112 cs. Phillipps & " 8dms. 3brls Graves

Rosin—
Holland, 67 pks. Van Dam & Co.
France, 25 brls. P. J. Johnson
U.S.A., 250 Rosin & Turp. Impt. Co.
France, 50 Watt & Sons

Salicylic Acid—
Holland, 10 cs. Hernu, Peron & Co.
France, £22 Mory & Co.

Saltpetre—
E. Indies, 100 t. Perkins & Homer
Germany, 119 P. Hecker & Co.

Silver Nitrate—
Holland, £250 T. H. Lee

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Silver Ore—
U.S.A., 22 t. Hoare, Wilson. & Co.

Silver Sulphide—
U.S.A., 7 t. B. Ackerley & Son

Soap—
Germany, £30 Hertz & Co.
,, 39 T. H. Lee
France, 2 Mory & Co.
,, 16 Litchfield & Soundy
U.S.A., 132 Field & Co.
,, 8 Armour & Co.
,, 4,785 Taylor Bros.
,, 145 W. Langford
,, 310 W. Davis
,, 20 Lunham & Moore
Holland, 24 W.H.Muller & Co.
Canada, 29 Armour & Co.
France, 132 Lucas & Spencer's Wf.
U.S.A., 120 Amer. Exp. Co.

Soap Powder—
Holland, £10 W.H.Muller & Co.

Soda—
Holland, 1 t. 5 c. A. & M. Zimmermann
Germany, 5 ,,
,, 3 T. H. Lee
,, 10 H. Lorenz
,, 5cs. A. & M. Zimmermann
,, 10 10 London & Rhine S. Office
Belgium, 5 10 J. Harrison

Soda Crystals—
Belgium, 30 t. G. A. Loos &Co.
Holland, 74 10 W. H. Muller & Co.
,, 25 H. G. Thomas

Sodium Acetate—
France, 10 t. J. Harrison

Sodium Sulphate—
Holland, 60 t. R. Green

Starch—
Belgium, 11 t. 4 c. Tarck & Co.
,, 10 G. W. Sheldon
,, 12 Leach & Co.
Holland, 2 10 Burgoyne & Co.
,, 2 7 Robinson, Roberts & Co.
,, 17 16 W. H. Muller &Co.
,, 3 Little & Johnston
U.S.A., 5 Tennant's Wf.
,, 4 4 T. L. Field
France, 3 C. E. Wood

Stearine—
Belgium, 1 ck. Hill & Sons
France, 50 bgs. Murray & Co.
,, 7 Mordaunt Bros.
,, 250 Boot & Co.
,, 60 Hill & Sons

Sulphur—
Italy, 3 t. J. Kitchin
,, 15 2 c. W. C. Bacon & Co.
,, 120 3 Gillespie, Bros. & Co.
,, 32 10 Deering & Robottom
,, 30 1 G. Boor & Co.
Belgium, 7 J. Kitchin

Sulphur Chloride—
Germany, £63 Typke & King

Sulphur Oil—
U.S.A., £280 J. Greig

Tallow—
N. Zealand, 28 cks. Goad, Rigg & Co.
,, 49 Lucas & Spencer's Wf.
,, 74 L. & I. D. Jt. Co.
,, 356 Leach & Co.
,, 69 Thornett & Fehr
,, 75 Anning & Cobb
,, 9 Dalgety & Co.
,, 5 Sanderson Murray & Co.
,, 83 Bk. N. Z.
,, 150 Phillipps & Graves
,, 56 New Sun & Vane Wks.
,, 150 J. Owen

Tallow—
Germany 4 cks. Drolenvaux Bremner
U.S.A. 4 tubs Grose & Co.
,, 670 cks. Leete Son & Co.
,, 90 W. H. J. Alexandra
Queensland 278 J. Greig
Belgium 24 J. Harrison & Co.

Tartar—
Italy £594 Fellows Morton & Co.

Tartaric Acid—
France 12 cks. B. & F. Wf. Co.
Germany 12 T. H. Lee
Italy 22 10 kgs. B. & F Wf. Co.
Holland 5 Kirkpatrick Barr & Co.

Thermit—
Holland £47 J. Barber & Co.

Thyme—
Belgium £39 J. Cockerill Line

Tin Ashes—
N. Russia 9 t. Sutton & Co
N.S.W. 2 c.J. Cockerill Line

Tin Crystals—
Holland £26 J. Barber & Co.

Tin Perchloride—
Holland £22 J. Barber & Co.

Turpentine—
Germany, 8 cs. T. H. Lee
N. Russia 456 brls. London Oil Storage Co.
Berlin 210 Deutsche Bank. London Agency
,, 50 Goodlake & Nutter
N. Russia, 2 ,,

Ultramarine—
Belgium, 14 cks. Zetterguist, Marryat
Germany, 20 cs. Argo S.S. Co.
Holland, 3 A. G. Soutter & Co.
,, 9 pks. W. H. Muller & Co.
Belgium, 4 cks. O. Lechla
,, 3 L. Bergen & Sons
,, 2 Felton & Crepin
,, 14 brls. Leach & Co.

Vanillin—
Germany, £147 L. & I. D. Jt. Co.
France, 237 Mory & Co.

Wax—
E. Indies, 10 pks. L. & I. D. Jt. Co.
Germany, 30 Barber & Co.
,, 93 8 bls. T. H.
,, 5 cs. Lee
,, 5 34 cs. Prop. Hay's Wf.
,, 1 Argo S.S. Co.
,, 20 Wilkins, Campbell & Co.
,, 14bgs. 1 cs. L. & I. D. Jt. Co.
,, 53 blks.
,, 7 bgs. P. J. Johnsen
,, 300 pks. Grimbaum & Son
,, 260 N. Dk. Co.
France, 1cs. 15 pks. L. & I D. Jt. Co.
,, 5 Clarke, Smith
,, 4bgs.19 mats. Figgs & Co.
Aden, 6 cs. Major & Field
Morocco, 45 bgs. Forwood, Bros. & Co.
Holland, 32 W. H. Muller & Co.

White Lead—
A. Hung., 25 cks. Ldn. & Rhine S. Office
Belgium, 90 G. Farmiloe
,, 19 pks. Argo S.S.Co.
,, 36 cks. Burrell & Co.
U.S.A., 37 brls. J. Watt & Son
,, 10 cs. Grosscurth & Luboldt
Germany, 4 cks. Randall Bros.
,, 104 Spies, Bros. & Co.
Belgium, 53 T. W. Farmiloe

White Lead—
A. Hung., 20 brls. Barr, Moering & Co.
U.S.A., 69 Fernner, Alder & Co.
Germany, 69 cks. Taylor Bros.
Holland, 36 Burrell & Co.
,, 51 Taylor Bros.

Zinc Oxide—
Germany, 50 brls. M. Ashby
Holland, 200 Litchfield & Soundy
U.S.A., 400 M. Ashby
Holland, 12 ,,
,, 10 cks. T. H. Nye
Germany, 10 C. S. Lovell&Sons
,, 50 brls. M. Asbhy

LIVERPOOL.

Week ending July 11.

Aluminium—
Quebec, 500 bxs. British Alum Co.

Antimony Ore—
Shanghai, 327 bgs.

Barium Sulphate—
Antwerp, 400 bgs. 109 cks.

Bones—
M. Video, 1,347 bgs.

Caoutchouc—
Havre, 115 bls. Cunard S.S. Co.

Casein—
Antwerp, 29 bgs.

Castor Oil—
Calcutta, 899 cs.
Leghorn, 10 Syman, Bros. & Co.
,, 10 cs. Syman, Knox & Co.

Caustic Potash—
Sydney, 50 cs.

Chemicals (*otherwise undescribed*)
Bordeaux, 25 cks.
Rouen, 54 Co-op. W'sale Soc., Ltd.

Colour—
Rouen, 50 cks. Co-op. W'sale Soc., Ld.

Copper Ashes—
Bremen, 12 cks.

Copper Ore—
Singapore, 5,308 bgs.

Copper (Precipitate)—
Brisbane, 140 bgs.

Cottonseed Oil—
New York, 128 brls.
New Orleans, 25

Cream of Tartar—
Bordeaux, 23 cks.

Dried Blood—
B. Ayres, 980 bgs. Liebig Ext. Meat Co.

Dyestuffs—
Bark Extract
Newport N., 130 brls.
Dyewood
Philadelphia, 100 brls.
Gambier
Singapore, 2,570 bls.
Myrabolan Extract
Calcutta, 334 cs.
Quebracho Extract
B. Ayres, 4,360 bgs.
Saffron
Valencia, 1 cs.
Sumac
Palermo, 50 bgs.
Tannin Extract
Havre, 26 cks.
Bordeaux, 1,040
Bastia, 765 brls.
Messina, 25

Ferro Chrome—
Newport N., 6 brls.
Havre, 3 cs. Cunard S.S. Co.

Gelatine—
Rotterdam, 3 cs.

Glue—
Boston, 16 brls.
Calcutta, 34
Rotterdam, 10 bgs.
Hamburg, 40
Rouen, 5 cs. Co-op. W'sale Soc., Ld.

Guano—
B. Ayres, 19 bgs.

Lactic Acid—
Rotterdam, 10 cks.

Magnesium Carbonate—
Hamburg, 1 bg.

Manganese Ore—
Gothenburg, 254,000 kilos.
Calcutta, 968 t.

Metal Ashes—
Hamburg, 8 pks.

Mineral White—
St. Nazaire, 50 bgs.
Bordeaux, 100

Olive Oil—
Bordeaux, 174 cs.

Phosphate Rock—
Tampa, 1,100 t.

Phosphates—
Rotterdam, 10 bgs.

Potash—
New York, 4 cks.
Rouen, 42 Co-op. W'sale Soc., Ld.
Hamburg, 20 dms.

Pyrites—
Huelva, 39 t.

Pyrites (Copper)—
Huelva, 54 t.

Rosin—
Bordeaux, 1,087 cks.
Bremen, 9
Baltimore, 550 brls.

Rubber—
Iquitos, 842 cs.
N. York, 23 bgs. 13 bls. 125
Lahou, 10 cks. Cie Francaise de Kong
,, 11 ,,
Monrovia, 1 Liberian Rubber Corporation
Sierra Leone, 2
Gambia, 3 brls. Bathurst Trading Co.
,, 15 1 pk. Cie Francaise de K.
,, 7 2 A. Cros & Co.
Dakar, 9 cks. Studken & Co.
,, 4 Cie Francaise, A.O.
Cabenda, 1 bg. Hatton & Cookson
Boma, 8 cks. ,,
Calabar, 4 African Assoc.
,, 1 Miller, Bros. & Co.
C. Coast, 3 H. B. Russell & Co.
,, 2 1 bg. Miller Bros.
Axim, 1 brl. ,,
Cartagena, 17 4 bxs.
Hamburg, 66 cks.

Saltpetre—
Calcutta, 696 bgs.
Bombay, 720
Hamburg, 20 kgs.

Soap—
Philadelphia, 3 cs.
New York, 4
Hong Kong, 112
Leghorn, 165
Genoa, 30
Newport N., 150 brls.

Soap Stock—
Newport N., 281 cs.
New York, 5 brls. N. W. Chemical Co.

Starch—
Phila'phia, 200 brls.
New York, 45 J. Armstrong & Co.
Antwerp, 40 cs. Fletcher & Co.
,, 794
Ghent, 46 ,,
Rotterdam, 30
Bremen, 10 cks.
Hamburg, 2

Tallow—
Philadelphia, 849 trcs.
New York, 50 hhds. 525
Sydney, 83 cks.
Shanghai, 9,986 pks.
B. Blanca, 963
B. Ayres, 480
Montreal, 80
Galveston, 540

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Tallow—
Alexandria, Baltimore, B. Ayres, 10 brls. 263 trcs. a qnty. Liebigs E. of M. Co.

Tartaric Acid—
Rotterdam, 16 cks.

Wax—
Phila'phia, 100 cs. 2,704 brls.
Gambia, 25 pkgs. Cie Francaise de K.
Dakar, 15 4 cs. A. Cross & Co.
Bordeaux, 911 brls.
New York, 220
Baltimore, 210 Vacuum
New York, Oil Co.

Zinc Oxide—
Antwerp, 110 brls.

MANCHESTER.

Week ending July 13.

Ammonia (Anhydrous)—
Rotterdam, 40 cs.

Ammonium Hydrate—
Rotterdam, 500 bgs.

Antimonin Salt—
Rotterdam, 4 cks.

Asbestos—
Antwerp, 2 cs. J. T. Fletcher & Co.
32 brls.
Genoa, 2 cs.
80 bgs.
Rotterdam, 33 crts.

Calcium Carbide—
Christiania, 105 dms.

Castor Oil—
Antwerp, 28 brls. J. T. Fletcher & Co.
10 cs.
Genoa

Chemicals (*otherwise undescribed*)
Bordeaux, 400 bgs.
Genoa, 4 cks.
Hamburg, 10
Rouen, 12
Rotterdam, 11 brls. 3 cs.

Citric Acid—
Bordeaux, 8 cks.

Coal Products—
Alizarine
R'tterdam, 115 brls. 48 cks.
Beta Naphtha
Rotterdam, 4 cks.
Tar
Liban, 50 brls.

Colour—
Hamburg, 68 cks.
Antwerp, 16 J. T. Fletcher & Co.

Dextrine—
Antwerp 1 ck. J. T. Fletcher & Co.

Dyestuffs—
Tannin
Rotterdam, 2 cks.
Hamburg, 27
Antwerp, 5

Farina—
Rotterdam, 2,727 bgs.

Ferro Chrome—
Rotterdam, 3 brls.

Ferro Silicon—
Fredrikstadt, 80 cs.

Glue—
Marseilles, 20 bls.
Rouen, 35 cks.
Rotterdam, 70 bgs. 20
Hamburg, 100
Antwerp, 10 cs.
Bordeaux

Litharge—
Rouen, 10 cks.
Rotterdam, 13

Lithopone—
Rotterdam, 11 cks.

Magnesia—
Philadelphia, 66 brls.

Magnesium Sulphate—
Alicante, 3,139 bgs.

Manganese Ore—
Bahia 5·750 t.

Mineral White—
Bordeaux, 400 bsg.

Olive Oil—
Leghorn. 185 cs. 47
Marseilles, 8 cks. 42 brls.

Oxalic Acid—
Hamburg, 16 cks.

Paraffin Wax—
Philadelphia, 556 brls.

Paraffin Scale—
Philadelphia, 665 brls.

Potash—
Hamburg, 28 cks.

Potassium Prussiate—
Hamburg, 6 cks.
Antwerp, 15

Red Lead—
Rouen, 10 cks.
Rotterdam, 12

Rosin—
Philadelphia, 800 brls.
Rotterdam, 2 cks.
New Orleans, 100
Bordeaux, 20

Rubber—
Hamburg, 98 bgs.

Salt—
Rotterdam. 70 dms.

Saltpetre—
Hamburg, 20 cks.

Silica—
Antwerp, 100 bgs. J.T. Fletcher & Co.

Soap—
Philadelphia, 2,785 bxs.
Marseilles, 100 cs.

Soapstone—
Genoa, 300 bgs.

Soda—
Hamburg, 8 cks.

Sodium Acetate—
Antwerp, 64 cks. J. T. Fletcher & Co.

Sodium Chlorate—
Genoa, 80 brls.
Marseilles, 3 cks.

Sodium Nitrate—
Rotterdam, 9 cks.

Starch—
Antwerp, 151 bgs. 368 cs. 305 J. T. Fletcher & Co. 200 bgs.
Ghent, 40
Marseilles, 4,000
N. York,

Turpentine—
Libau, 3 brls.

Ultramarine—
Rotterdam, 12 cks.
Hamburg, 10 cs.

Wax—
Hamburg, 10 bgs.

Zinc Oxide—
Antwerp, 12 brls. J. T. Fletcher & Co.

Zinc White—
Rotterdam, 10 cks.

HULL.

Week ending July 13.

Acetic Acid—
Rotterdam, 126 btls. Hull & N. S.S. Co.

Alumina—
Ghent, 50 bgs. Wilsons & N.E. R. S. Co.

Aluminium—
Antwerp, 51 cks. Wilsons & N.E. R. S. Co.

Antimony—
Dunkirk, 4 brls.

Asbestos—
Riga, 8 pkgs.

Barytes—
Antwerp, 37 cks. Wilsons & N.E. R. S. Co.

Calcium Carbide—
Christiania, 10 dms. Wilson, Sons & Co.

Chalk—
Rotterdam, 3 cs. Hull & N. S.S. Co.

Chemicals (*otherwise undescribed*)
Bremen, 47 cks. Veltmann & Co.
Rotterdam, 73 Hull & N. S.S. Co.
Dunkirk, 50 Wilsons & N.E. R. S. Co.

Coal Products—
Alizarine
Rotterdam, 5 cks. Hull & N. S.S. Co.
21 pkgs.
Aniline
Rotterdam, 193 pkgs. Hull & N. S.S. Co.
10 cks.
" 105 H. & B. Rly. S.S. Line

Tar Oil
Rotterdam, 40 cks. Hull & N. S.S. Co.

Colours—
Antwerp, 42 pkgs. Wilsons & N.E. R. S. Co.
Danzig, 6 cks. Wilson, Sons & Co.

Cream of Tartar—
Marseilles, 13 cks.

Dyestuffs—
Sumac
Palermo, 225 bgs.
Tannin
Genoa, 5 brls. Wilson, Sons & Co.
Tannin Extract
Genoa, 50 brls.

Farina—
Amsterdam, 30 bgs. Hull & N. S.S. Co.
Antwerp, 50 Wilsons & N.E. R. S.S. Co.
Stettin, 100

Glucose—
New York, Wilson, Sons & Co.

Glue—
Antwerp, 20 brls. Wilsons & N.E. R. S. Co.
Fiume, 40 bgs.

Glycerine—
Amsterdam, 3 dms. Hull & N. S.S. Co.

Linseed Oil—
Amsterdam, 36 cks. Hull & N. S.S. Co.
Colastine, 27,310 bgs.
Antwerp, 6 brls. Wilsons & N.E. R. S. Co.

Lithopone—
Antwerp, 67 cks. Wilsons & N.E. R. S. Co.

Oleone—
New York, 105 trcs. Wilson, Sons & Co.

Olive Oil—
Marseilles, 12 cks.

Phosphate—
Abberville, 270 t.

Plumbago—
Genoa, 100 bgs.

Potash—
Bremen, 50 dms.
Odessa, 733 brls.
Bremen, 20 Veltmann & Co.
Hamburg, 30 Wilsons & N.E. R. S. Co,

Potassium Prussiate—
Antwerp, 5 cks. Wilsons & N.E. R. S.Co.

Soap—

Rosin—
New York, 484 brls.
Marseilles, 14 cs. Wilson, Sons & Co.
Naples, 4
New York, 50 brls."

Soda Crystals—
Ghent, 50 bgs. Wilsons & N.E. R. S. Co.

Sodium Acetate—
Antwerp, 20 cks. Wilsons & N.E. R. S. Co.

Starch—
Bremen, 1,252 cs. Veltmann & Co.
Antwerp, 141 Wilsons & N.E. R. S. Co.

Tartaric Acid—
Genoa, 6 cks. Wilson, Sons & Co.
Bari, 40 brls. "

Ultramarine—
Rotterdam, 12 pkgs. Hull & N. S.S. Co.
Bremen, 4 cks.

White Lead—
Rotterdam, 94 cks. Hull & N. S.S. Co.
Stettin, 194

Zinc Oxide—
Antwerp, 50 brls.

Zinc White—
Rotterdam, 20 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending July 20.

Acetic Acid—
Rotterdam, 14 blns.

Acid (*otherwise undescribed*)—
Hamburg, 70 pkgs.

Aluminium—
Antwerp, 10 bgs.

Antimonin—
Rotterdam, 5 cks.

Asbestos—
Genoa, 74 pkgs.

Barytes—
Hamburg, 95 bgs.

Barium Sulphate—
Antwerp, 550 bgs.

Calcium Carbide—
Drontheim, 200 dms.

Castor Oil—
Antwerp, 28 brls.
Genoa, 30 cs.
Leghorn, 5

Caoutchouc—
Hamburg, 13 bgs.

Chemicals (*otherwise undescribed*)
Rotterdam, 3 cs.
Hamburg, 5

Coal Products—
Alizarine
Rotterdam, 74 cks. 12 bls.
Aniline
Rotterdam, 25 pks.

Colours—
Rotterdam, 108 pks.

Cream of Tartar—
Tarragona, 52 brls.

Dyestuffs—
Myrabolans
Calingapatam, 863 bgs.
Bimlipatam, 3,424
Vizagapatam, 166

Glue—
Hamburg, 80 bgs.

Glycerine—
Genoa, 30 dms.

Linseed Oil—
Amsterdam, 288 brls.
Rotterdam, 140

Lithopone—
Rotterdam, 60 cks.

Magnesite—
Amsterdam, 100 bgs.
R'tterdam, 110 5 brls.

Olive Oil—
Leghorn, 540 bxs. 41 cs. 12 qr.-bxs.

Oxalic Acid—
Hamburg, 3 cks.

Plumbago—
Hamburg, 3 cks.
Genoa, 250 bgs.

Potash—
Hamburg, 40 dms.

Potassium Prussiate—
Hamburg, 3 cks.

Pyrites (Copper)—
Huelva, 2,260 t.

Rubber—
Hamburg, 10 bgs.

Soap—
Genoa, 190 cs.

Soap Oil—
Antwerp, 6 brls.

Soap Powder—
N. York, 2,000 bxs.

Sodium Chlorate—
Antwerp, 16 brls.

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Sodium Nitrate—
Corcovada, 5,399 cs. Mitrovich Bros.
Starch—
Amsterdam, 50 bgs.
Rotterdam, 200 cs.
New York, 1,800
Antwerp, 248
Stearine—
Antwerp, 25 bgs. 63 bls.
Tartar—
Rotterdam, 2 cks.
Bordeaux, 5
Tartaric Acid—
Rotterdam, 6 cks.
Ultramarine—
Rotterdam, 1 ck.40 cs.
Wax—
Hamburg, 2 cs.
Leghorn, 2
White Lead—
Rotterdam, 72 cks.
Zinc Sulphate—
Hamburg, 10 bgs.
Zinc Oxide—
Antwerp, 72 brls.
Zinc Oxide—
Antwerp, 72 brls.

TYNE.

Week ending July 13.

Acetic Acid—
Antwerp, 25 cks. Tyne S.S. Co.
Aluminium—
Hamburg, 3 cks. Tyne S.S. Co.
Antimony—
Hamburg, 2,755 bars Tyne S.S. Co.
Asbestos—
Rotterdam, 4 bls. Tyne S.S. Co.
Barytes—
Rotterdam. 60 bgs. Tyne S.S. C.
Copper Ashes—
Amsterdam, 2 cks. W. Swanston & Sons
Copper Oxide—
Hamburg, 20 dms.
Copper Precipitate—
Huelva, 254 t. The Tharsis S. & C. Co.
Gelatine—
Hamburg, 1 cs. Tyne S.S. Co.
Salammoniac—
Rotterdam, 10 cks. Tyne S.S. Co.
Starch—
Antwerp, 373 cs. Tyne S.S. Co.
Tartar—
Rotterdam, 2 cks. Tyne S.S. Co.
Hamburg, 2 ,,
Tennet Extract—
Copenhagen, 1 kg. Nielsen & Anderson & Co.
White Lead—
Rotterdam, 26 cks. Tyne S.S. Co.

GOOLE.

Week ending July 13.

Barytes—
Antwerp, { 36 cs. 150 bgs.
Hamburg, 40 cks.
Rotterdam, 43 300
Caouchouc—
Boulogne, 4 cks.
Caustic Potash—
Hamburg, 30 dms.
Boulogne, 40
Chemicals (*otherwise undescribed*)
Rotterdam, 31 cks.
Coal Products (*otherwise undes.*)—
Rotterdam, 2 cks.
Coal Products—
Alizarine
Rotterdam, 13 cks.
Creosote Salt
Rotterdam, 23 cks.
Tar Salt
Rotterdam, 1 ck.
Colours—
Antwerp, 16 cks. 3 cs.
Copper Ore—
Antwerp, 120 bgs.
Dyestuffs (*otherwise undescribed*)
Boulogne, 182 cks. 2 bgs.
Hamburg, 125 9 cs.
Rotterdam, 367 75
Dyestuffs—
Indigo (Synthetic)
Rotterdam, 8 cks.
Quebracho
Hamburg, 200 bgs.
Farina—
Rotterdam, 20 bgs.
Amsterdam, 50
Delfziel, 2,773
Formic Acid—
Hamburg, 8 cks. 100 cbys.
Glue—
Antwerp, 10 bgs.
Lime Salts—
Rotterdam, 2 ctes.
Magnesite—
Amsterdam, 250 bgs.
Oleine—
Rotterdam, 2 cks.
Antwerp, 19 bskts.
Plumbago—
Hamburg, { 23 cks. 749 bgs.
Potash—
Dunkirk, 40 dms.
Pyrites (Iron)—
Bossmo, 800 t.
Saltpetre—
Antwerp, 135 bgs.
Salts—
Hamburg, 17 cks.1 cs.
Salt (Waste)—
Hamburg { 100 t. 500 bgs.
Sodium Chromate—
Rotterdam, 20 cks.
Sodium Hydrosulphite—
Boulogne, 5 cks.4 cs.
Starch—
Antwerp, 10 cs.
Ghent, 50
Tungsten—
Hamburg, 50 cs. British M. & M. Co.
Wax—
Hamburg, 31 cs.
Wolfram—
Hamburg, 10 cs. British Mining & Metal Co.

GRIMSBY.

Week ending July 13.

Acetic Acid—
Helsingborg, 35 pks.
Calcium Carbide—
Caristiania, 98 dms.
Fredriksstadt, 50
Caoutchouc—
Hamburg, 31 cs.
Antwerp, 8
Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.5 cs.
Helsingborg, 570 bgs.1 bx.
Colours—
Hamburg, 2 cks. 33 pks.
Rotterdam, 4 5 cs.
Antwerp, 59
Cream of Tartar—
Rotterdam, 4 cks.
Glue—
Hamburg, 20 bgs.
Antwerp, 8 cks.
Rotterdam, 20
Glue Stock—
Hamburg, 390 bgs.
Starch—
Antwerp, 10 cs.
Tannin—
Hamburg, 2 cks.
Ultramarine—
Rotterdam, 10 cs.
Zinc Ashes—
Antwerp, 19 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 17.

Ammonia—

Constantinople	10 cs.	£14
Begrade	4	5
Cape Town	13	22
Mauritius	4	12
Algoa Bay	5	15
Launceston	23 pks.	12
Delagoa Bay	15	36
Sydney	12	32

Ammonia (Anhydrous)—

Yokohama	12 cs.	£87
Port Said	12	96

Ammonium Carbonate—

Copenhagen	10 cks.	£28
Cape Town	2 cs.	7
Bombay	5	10
Hamburg	11	55
Launceston	a qnty.	7

Ammonium Chloride—

Wellington	1 brl.	£3

Ammonium Muriate—

Cologne	2 t. 10 c.	£57

Ammonium Sulphate—

Madeira	25 t. 10 c.	£310
Madras,	6 13	88
Hamburg,	25	300
Kobe,	200	2,400

Antimony—

Alexandria,	1 t.	
Calcutta,	10 c.	
Bombay,	1	

Antimony (Regulus)—

Rotterdam,	3 t.	
Antwerp,	3 12 c.	
Boston,	5 2	

Asbestos—

Shanghai,	6 c.	£2
Cyprus,		£17
Flushing,		27
Yokohama,		74
Christiania,		33

Arsenic—

Yokohama,	25 kgs.	£45

Barium Binoxide—

Newport N.,	4 t. 7 c.	£150

Bisulphite of Lime—

Wellington,	9 hhds.	£13

Bleaching Powder—

S. Francisco,	300 dms.	£255

Bones—

Boston,	47 t.	£245
Antwerp,	11 14 c.	57

Boracic Acid—

Cape Town,	3 c.	£5

Borax—

Calcutta,	4 t. 1 c.	£76
Harlingen,	3 cks.	25
Port Said,	17	22
Fremantle,	8	6

Boric Acid—

Algoa Bay,	5 c.	£6

Calcium Carbide—

P. Elizabeth,	2 c.	£8

Calcium Chloride—

Yokohama,	9 t. 3 c.	£29

Carbon Bisulphide—

Singapore,	20 cs.	£19

Caustic Potash—

Calcutta,	4 c.	£12

Caustic Soda—

Zanzibar,	2 t.	£21
E. London,	7 7 c.	56
Launceston,	2	6
Beira,	6	5
Sydney,	11	9
Perth,	7	7

Chemicals (*otherwise undescribed*)

Trinidad,	8 cs.	£42
Hamburg,	33	39
Melbourne,	4cks. 2 3pks.	36
Madras,	25	81
Singapore,	24	37
Alexandria,	44dm.	61
Cologne,	60	180
Copenhagen,	1	29
Christchurch,	10 kgs.	8
Kingston,	3	16
Beira,	4pks.	8
Bremen,	9	129
Wellington,	1	5
Calcutta,	2 25dm.	24
Cape Town,	6	36
E. London,	7	40
Bombay,	30 10 bgs.	38
S.John,N.B.,	16 cks.	43
Halifax,	5	18
Hamilton,	89	242
Toronto,	89	209
Rotterdam,	96	328
Fremantle,	8	105

Citric Acid—

Hamburg,	31 c.	£225
Christchurch,	1	10
Colombo,	2	18
E. London,	1	9

Citric Acid (Crystals)—

Philadelphia,	10 t.	£2,147

Coal Products (*otherwise undes.*)

Treport,	45 t.	£115

Coal Products—
Alizarine

Dunedin,	7 kgs.	£129

Aniline Colour

Melbourne,	4kgs. 3 cs.	£63
Dunedin,	2 cks.	46

Aniline Dye

Boulogne,	3 pks.	£24

Aniline Oil

Boston,	5 dms.	£170

Benzine

Teneriffe,	2 cs.	£6

Carbolic Acid

Christiania,	34 pks.	£29
Boston,	13 cks.	81
Toronto,	1 cs.	9
Amsterdam,	49	170
Launceston,	3 20 dms.	21
Newport N.,	120 13	937

Carbolic Acid (Crystals)

Adelaide,	2 cs.	£9

Carbolic Acid (Powder)

Sydney,	30 cks.	£9

Creosote

Boston,	93 cks.	£155
Newport N.,	915	533

Creosote Oil

Galveston,	1,589 t. 14 c.	£3,062

Naphthaline

Halifax,	135 bgs.	£53
Algoa Bay,	5 cs.	11

Pitch

Singapore,	20 cks.	£20
Port Said,	200 brls.	70
Hamburg,	13 150 54bgs	420
Sydney,	40 bdls.	20
Antwerp,	245 t.	349
Launceston,	5 brls.	7

Tar

Durban,	12 dms.	£8
E. London {	20 cks. 600	28
Boston,	1 cs.	6
Batoum,	50 dms.	40
Cape Town,	350	25
Sekondi,	30	5

Tar Oil

Rotterdam,	20 cks.	£84

Toluol

Treport,	62 cks.	£130

Copper Sulphate—

Rosario,	1 t.	£34
Montreal,	10	300
Amsterdam,	9 17 c.	293
Bordeaux,	25	788

Cottonseed Oil—

Bordeaux,	10 t. 6 c.	
Rotterdam,	24 10	

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Cream of Tartar—
Melbourne, 10 c. £41
Cyanide (otherwise undescribed)—
Melbourne, 6 t. 11 c. £416
Sydney, 24 cs. 166
Disinfectant—
Rangoon, 60 dms. £13
Amsterdam, 2 pks. 9
Calcutta, 650 63
Singapore, 6 52 159
Launceston, 4 cs. 10
Copenhagen, 1 ck. 51
Bombay, 2 120 4 27
Cologne, 10 180
Melbourne, 25 kgs. 6 39
Colombo, 5 6
Adelaide, 4 13
Wellington, 17 39
Yokohama, 75 12 32
P. Elizabeth, 40 37
Durban, 20ck. 70 4 61
Algoa Bay, 20 10 29 99
Delagoa Bay, 3 8
Cape Town, 25 9 18
N. Plymouth, 1 tank. 20
Sydney, 6 8 23
Glycerine—
Lisbon, 4 c. £26
Montreal, 6 t. 7 262
Guano—
Limon, 1 t. 6 c. £9
Kobe, 5 38
Hydrochloric Acid—
Madras, 1 cs. £1
Hydrogen Peroxide—
Sydney, 2 cs. £7
Lactic Acid—
Sydney, 1 t. 3 c. £45
Linseed Oil—
Alexandria, 3 t. 13 c.
Bangkok, 4 12
Cadiz, 3 9
Calcutta, 1 18
Colombo, 12
Durban, 18
E. London, 3 11
Grenada, 3
H. Kong, 4 15
Invercargill, 1 15
Launceston, 3 9
Malta, 1 4
Manilla, 16
Mauritius, 6 1
Nagasaki, 10
Newcastle, 9 9
Penang, 1 5
Piræus, 10
R. Grande, 6 3
R'hampton, 1
Shanghai, 2
Suez, 7
Volo, 17
Amsterdam, 2
Antigua, 4
Brisbane, 14
Cape Town, 2 17
Ceara, 1 10
Cebu, 10
Con'nople, 1 7
Delagoa Bay, 15
Gibralter, 13
Mossel Bay, 4
N. Orleans, 18
Oporto, 2 1
P. Elizabeth, 1 11
Rio de Jan., 31 8
Santos, 6 18
Sydney, 1 11
Manure—
St. Kitts, 8 t. £50
Montserrat, 6 30
Colombo, 10 40
Riga, 247 555
Morlaix, 180 1,260
Madeira, 30 204
Mercury Bichloride—
Havana, 4 cs. £19
Muriatic Acid—
Oporto, 14 c. £13
Santos, 1 t. 16
Madras, 10 7
Nitric Acid—
Madras 6 cs. £6
Paraffin Wax—
Brussels 16 c.
Phosphoric Acid—
Mauritius 99 cks. £361
Phosphorus—
Bombay 4 c.
Otago 2 cs. £33
Sydney 13 13
Melbourne 4 87
27

Pitch (Glue)—
Trieste 6 t. 2 c.
Bombay 1 8
Plumbago—
Brisbane 10 c.
Singapore 1 t.
Potash—
Sydney 8 c. £35
Adelaide 2 12
Barcelona 2 16
Potassium Chlorate—
Launceston 4 c. £6
Potassium Cyanide—
Melbourne, 4 t. £303
Calcutta, 16 c. 43
Bombay, 5 21
Potassium Nitrate—
Channel Is., 1 t. £9
Potassium Prussiate—
Calcutta, 10 c. £34
Potassium Sulphate—
Montreal, 4 c. £6
Quinine—
Patras, £161
Rosin Oil—
Genoa, 18 t. 4 c.
Salammoniac—
P. Elizabeth, 12 c. £18
Alexandria, 3 t. 9 96
Salt—
Auckland, 3 t.
Delagoa Bay, 4
Hobart, 1
Durban, 4
E. London, 5
Saltpetre—
E. London, 4 c. 10 cs. £11
Oporto, 22 t. 5 c. 550
Durban, 4 6
Melbourne, 1 26
Copenhagen, 16 10 372
Hamburg, 1 5 34
Rio de Jan., 3 9 92
Launceston, 4 5
Saltpetre (Crystals)—
Delagoa Bay, 4 c. £5
Algoa Bay, 8 10
Sheep Dip—
Hobart, 40 dms. £20
Lyttelton, 85 15 cks. 150
Monte Video, 50 100 cs. 235
B. Ayres, 400 500 1,117
Soap—
Adelaide, 7 c.
Alexandria, 5
Auckland, 7
Barcelona, 2
Berbice, 3
Bombay, 14
Brisbane, 2
Boulogne, 5
Brussels, 1
B. Ayres, 1
Calcutta, 2 t. 6
Coalzacoalcas, 1
Colombo, 14
Copenhagen, 4
Demerara, 2
Durban, 2 15
E. London, 2 12
Gibralter, 13
Halifax, 11
Hamburg, 4
H. Kong, 1 4
Madras, 7 15
Newcastle, 2
New York, 6
Otago, 2 6
Penang, 13
P. Elizabeth, 2
Rotterdam, 2
Seychelles, 7
Shanghai, 2
Swakopmund, 10
Sydney, 4
Tampico, 1
Tientsin, 11 4
Valencia, 1
Barbadoes, 7
Beira, 10
Bremen, 15
Cape Town, 17
Flushing, 1
Fremantle, 7
Hobart, 3
Jamaica, 11
Melbourne, 6
St. Kitts, 1 15
Wellington, 18
Yokohama, 2
Zanzibar, 2
Rouen, 5 13

Soap Powder—
Auckland, 2 t. 17 c.
Soda Crystals—
E. London, 3 t. 12 c. £14
Zanzibar, 3 9
Sodium Bicarbonate—
E. London, 1 t. £14
Sodium Cyanide—
Greymouth, 4 t. 10 c. £382
Sodium Hyposulphite—
Cape Town, 1 t. £7
Sodium Tartrate—
Sydney, 5 c. £18
Montreal, 11 30
Oporto, 11 41
Starch—
Beira, 7 c.
Calcutta, 5
Christchurch, 1 t. 8
Colombo, 1
Delagoa B., 6
Durban, 4 6
E. London, 1 2
Hobart, 3 3
Melbourne, 1 5
B. Ayres, 10
Sydney, 11 17
Sulphur—
E. London, 7 t. 23 c. £93
Colombo, 1 14
Mossel Bay, 3 7 38
Melbourne, 2 5 65
Ghent, 8 43
Sulphuric Acid—
Madras, 2 c. £5
Zanzibar, 7 10
Colombo, 15 9
Superphosphates—
Mossel Bay, 10 t. £33
Tallow—
Rotterdam, 25 t. 3 c.
Hamburg, 22 16
Tartaric Acid—
Cape Town, 2 c. £16
Melbourne, 9 41
Singapore, 5 31
Sydney, 2 cks. 14
White Lead—
Adelaide, £101
Auckland, 50
E. London. 64
Montreal, 1,094
Sydney, 924
Antwerp 51
Calcutta, 202
Cape Town, 20
Wellington. 264

LIVERPOOL.

Period ending July 13.

Acetic Acid—
B. Ayres, 4 c. £8
Santos, 1 t. 3 17
Albumen—
Santos, 1 t. £124
Alum—
Sekondi, 1 kg. £1
Auckland, 15 c. 6
Bombay, 19 6
Adelaide. 1 t. 5
Oporto, 4 3 24
Sydney, 1 1 8
Seville, 5 30
Dedegatch 1 18 10
Bahia 7 3
Aluminous Sulphate—
Calcutta, 2 t. £6
Ammonia—
Bahia, 1 cs. £3
Ammonium Carbonate—
Bremen, 1 t. 10 c. £51
Barcelona, 10 16
Rouen, 10 15
Ammonium Muriate—
Stockholm, 2 t. 1 c. £49
Yokohama, 1 11 37
Hiogo, 6 2 146
Ibrail, 3 72
Galatz, 2 3 52
Genoa, 5 2 109
Varna, 10 12
Alexandria, 5 120
Cairo, 3 72
Naples, 19 23
Trieste, 2 15 66
Barcelona, 4 10 103
Aleppo, 5 7

Ammonium Sulphate—
Valencia, 125 t. 12 c. £6,625
New York, 50 100
Las Palmas, 212 11 2,545
Sourabaya, 45 6 566
Tarragona, 20 1 250
H. Kong, 75 100
Antimony—
Lisbon, 1 ck.
Arsenic—
Rosario, 19 c. £29
Havana, 14 44
Ceara, 3 9
Rio de Jan., 6 14
Basic Slag—
Durban, 20 £30
Tarragona, 10 15
Bleaching Powder—
Bombay, 45 cs. 9 dms.
Boston, 454 cks.
Maccio, 14 brls.
N. Orleans. 194
Philadelphia, 24
Piræus, 10
St. Louis, 20
Vera Cruz, 35
Boiler Disincrustant—
Cadiz, 40 bgs.
Valparaiso, 3 cks.
Bones—
Rouen, 12 t. 5 c. £80
Nantes, 8 18 55
Seville, 19 16 119
Boracic Acid—
Yokohama, 1 t. 10 c. £37
Rangoon, 6 11
Borax—
Havana, 2 t. £30
Manzanillo, 8 c. 6
Havana, 2 30
Antwerp, 5 4
Yokohama, 2 19 45
1 cs. 1
Manaos, 31
Cienfuegos, 2 2
Valparaiso, 1 ck.
New York, 16 t. 4 236
Sydney, 1 16
Guantanamo, 4 3
Vera Cruz, 1 4 18
Cienfuegos, 2 31
Borax (Calcined)—
Delagoa Bay, 13 c. £19
Calcium Carbide—
Mauritius, 3 c. £4
Calcium Chloride—
Wellington, 2 t. 3 c. £4
St. John's, 1 1 2
Montreal, 30 8 58
Manilla, 5 7 11
Rangoon, 20 6 50
Kobe. 5 2 11
Perth, 1 2
Rouen, 10 18
Hiogo. 32 2 60
Genoa, 28 9 47
Leghorn, 10 18 28
Calcium Sulphydrate—
Antwerp, 21 t. 1 c. £88
Carbonate of Lime—
New York. 1 t. 14 c. £19
Carbon Bisulphide—
Barbadoes, 1 dm. £2
Carbonic Acid Gas—
Burutu, 3 tubes £1
Valparaiso, 13 4
Caustic Soda—
Bahia, 20 bxs.
Barcelona, 20 cks. 80 dms.
Bombay, 11 brls.
Beira, 10
Boston, 77
Ceara, 20
Gefle, 121
Genoa, 200
La Guayra, 65
Lisbon, 15
Melbourne, 69
Messina, 121
Mollendo, 20
Montreal, 255
N. Orleans, 75
Nuevitas, 91
Oporto, 14
Para. 4
Pernambuco, 80
Rotterdam, 41
Rouen, 80
San Domingo, 6
Sydney, 32 cs.
Valencia, 28 125
Yokohama, 192 brls.
Antwerp,

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Caustic Potash—
St. Petersburg, 1 t. 15 c. £56
Lisbon, 1 7 36
S. Paulo, 2 2

Chemicals (*otherwise undescribed*)
Rosario, 744 bgs. £159
Iquique, 2 brls. 12
Smyrna, 10 68
Gijon, 2 cs. 12
Beira, 20 165
R. Ayres, 100 175
P. Madryn, 50 63
Cartagena, 20 dms. 62
Para, 15 45
Naples, 10 kgs. 20
Montreal, 55 cks. 5 brls. 423
Stockholm, 8 62
Sydney, 40 cs. 340
Calcutta, 2,119 slbs. 115

China Clay—
Baltimore, 882 t.
Boston, 412 10 c.
Portland, 830 cks.

Citric Acid—
P. Madryn, 1 cs. €13

Coal Products—
Aniline Colour
Boston, 17 cks. 1 pk.
New York, 51
Barcelona, 8 kgs.
Carbolic Acid
Rotterdam, 4 t. 17 c. £276
Maranham, 1 cs. 2
Carbolic Acid (Crystals)
Rangoon, 3 c. €13
Lagos, 2 cs. 4
Carbolic Acid (Liquid)
P. Arenas, 13 t. 18 c. £200
Carbolic Acid (Solid)
Marseilles, 11 t. 4 c. £628
Boston, 3 2 171
New York, 3 2 202
Creosote
Maranham, 1 cs. £2
Creosote Oil
Boston, 10 brls.
New York, 20
Pyridine Base
Hamburg, 10 dms.
Tar
Philadelphia, 150 brls.
Tar Oil
Christiania, 5 brls.

Colours—
Cartagena 1 cs.
Las Palmas 10 kgs.
Para 1 ck. 8 61
St. Johns 40 pks.
Tripoli 2
Valencia 1 bx.

Copperas—
C. Town, 14 c. €2
Teneriffe, 17 2
P. Cruz, 7 1

Copper Sulphate—
Manaos, 4 c. €7
Bordeaux, 1 t. 9 46
B. Ayres, 4 18 157
Barcelona, 29 1 889
Para, 6 10
Marseilles, 15 1 493
Smyrna, 1 32
Oporto, 2 1 62
Antwerp, 10 19 352
M. Video, 10 290
Konigsburg, 2 15 76
Teneriffe, 2 3
Corunna, 19 29

Cottonseed Oil—
Dakar, 30 brls.
Lanzarote, 2
Marseilles, 25

Cream of Tartar—
Chinde, 2 cs. €3
St. John's, N'fld., 5 c. 21

Disinfectants—
Calcutta, 100 dms. £10
Algoa Bay, 12 18
Sekondi, 1 cs. 1
Brass, 2 1
Hamburg, 40 20
Rangoon, { 101 / 90 cks. } 382
Sydney, 10 brls. 45
Trinidad, 2 5
Chicago, 60 20 431
Caldera, 85 bxs. 18
Melbourne, 5 dms. 7
Melbourne, 20 12
Copenhagen, 2 t. 10 c. 23
Melbourne, 20 kgs. 10
Rio de Jan., 2 4

Disinfectants—
Valparaiso, 1 cs. £5

Dried Blood—
Las Palmas, 8 t. 18 c. £92

Dyestuffs (*otherwise undescribed*)
Stockholm, 2 cks.

Dyestuffs—
Dyewood Extract
Barcelona, 5 cks.
Logwood Extract
Montreal, 5 cks.
Tanners' Extract
Boston, 300 brls.

Farina—
Antofagasta, 3 cs.

Fertilisers—
New York, 2,260 bgs.

Glue—
Bombay, 20 cs.
Boston, 336 bgs.

Glycerine—
Delagoa Bay, 95 t. 17 c. €427
Yokohama, 5 180
Hiogo, 5 180
Valparaiso, 4 16
Rotterdam, 28 12 1,144
Lisbon, 10 25
Vandreuil, C., 24 12 1,080
Barbadoes, 2 5
Colon, 10 26
B. Ayres, 1 7
Madras, 10 3 446
Stockholm, 9 18 480
Halifax, 1 46
E. London, 1 48
C. Town, 58 12 2,686

Iron Oxide—
Mendoza, 10 cks.

Lead Nitrate—
New York, 5 t. 2 c. £125

Linseed Oil—
Alexandria, 221 brls.
Bahia, 10 hhds.
Belize, 1 55 dms.
C. Coast, 10
Cartagena, 16 cs.
Ceara, 20
Half Jack, 10
Havana, 232
Iquitos, 25
Lisbon, 8 brls.
Manaos, 3
Maranham, 5 cks.
Pernambuco, 5
P. Columbia, 5
Sulina, 6
Volo, 2
Valparaiso, 200
Vera Cruz, 4

Magnesia—
Tampico, 4 c. £22
Guayaquil, 7 24
Beyrout, 9 36
Bordeaux, 2 t. 9 13
Ceara, 12 29

Magnesia (Calcined)—
Havana, 4 c. £14
Rio de Jan., 2 cs. 12
La Libertad, 2 6

Magnesite—
Sydney, B.C., 246 bgs.

Magnesium Carbonate—
Havre, 10 c. €10
Barcelona, 2 t. 19 52
Bahia, 1 5

Magnesium Chloride—
Rangoon, 3 t. 4 c. £15
Dunkirk, 19 12

Magnesium Citrate—
Boston, 4 c. £14

Magnesium Sulphate—
Corunna, 18 c. £5

Manure—
Barbadoes, 10 t. £80
Teneriffe, 30 313
Baltimore, 29 18 c. 100
Las Palmas, 14 11 60

Muriatic Acid—
Maranham, 2 cs. £2

Oxalic Acid—
New York, 5 t. 6 c. £186
Leghorn, 16 17

Paraffin Wax—
Bari, 66 bgs.
Malaga, 10
Naples, 155

Phosphorus—
Kobe, 3 t. 2 c. £455

Phosphorus (Amorphous)—
Kobe, 2 t. 4 c. £440

Plumbago—
Valparaiso, 6 cks.

Potash—
St. John's, N'fld., 5 c. €2

Potassium Bichromate—
Rio de Jan., 1 t. €31
Santos, 5 c. 11
Bordeaux, 1 4 39

Potassium Carbonate—
Havre, 9 c. €13
Corunna, 4 5

Potassium Chlorate—
Catania, 19 c. €26
Corunna, 10 16
Para, 6 10
Hamburg, 2 t. 58
Rio de Jan., 1 4 36
Havana, 1 33
Venice, 19 26
Genoa, 19 26

Potassium Cyanide—
Sekondi, 1 t. €85
Tultenango, 27 6 c. 2,750

Potassium Prussiate—
Calcutta, 1 t. 18 c. €88
Santos, 1 2 80

Potassium Stannate—
Bombay, 1 t. 2 c. £125

Red Lead—
Odessa, 25 cks.
Rio de Jan., 10
Vera Cruz, 10

Rubber—
N. Orleans, 1 cs.

Salammoniac—
New York, 5 c. €20
Colon, 1 cs. 2
Bombay, 2 t. 5 83
Samsoun, 1 39
Braila, 10 19
Beyrout, 16 20
Vera Cruz, 2 9
Varna, 4 7

Salt—
Aalborg, 496 t.
Amsterdam, 635
Antwerp, 146 13 c.
Axim, 6 5
Bassam, 15 1
Belize, 50
Benin, 14
Berracoe, 10 5
B. Ayres, 16 10
Calcutta, 3,819 19
Chittagong, 1,758
Christiania, 500
Dunedin, 6 cs.
Duala, 88
Ghent, 50
H. Jack, 3 15
Lagos, 287 4
Lisbon, 11
Mossel Bay, 25
Manaos, 97 17
Maranham, 14 14
Para, 217
Newcastle, 44
N. Orleans, 525
P. Elizabeth, 20
P. Madryn, 110
St. John's, 10
Sekondi, 11 3
Sinoe, 7 10
Sydney, 408
Talcahuano, 250
Valparaiso, 300
Winnebah, 11 3

Saltcake—
Antwerp, 69 t. 19 c. €70
Leghorn, 7 10 19

Saltpetre—
Parahyba, 19 c. £20
Ceara, 11 17
Maranham, 19 26
Cephalonia, 3 4
Lisbon, 50 141
Sekondi, 3 5
G. Bassam, 1 ck. 2
Sekondi, 1 kg. 5

Sheep Dip—
Odessa, 1 c. £2
Barranquilla, 1 cs. 2
Belize, 10 dms. 4 10
B. Ayres, 22 t. 15 740
M. Video, 2 8 55
Algoa Bay, 5 1 152
E. London, 5 17 110
Delagoa Bay, 9 19
P. Arenas, 40 cks. 200 407

Soap—
Bangkok, 500 brls.
Batavia, 1,500 bxs.
Bassam, 30
Bombay 1,765
Calcutta 240
Chinde, 25 cs.
Ceara, 61
Christiania, 664
Delagoa Bay, 42
Demerara, 200
E. London, 1,118
Forcados, 1
Gothenburg, 100
Half Jack, 55
Lagos, 487
Malta, 20
Manila, 111
Opobo, 1,200
Reunion, 500
Rangoon, 69 542
St. John, 101
Santos, 21
Shanghai, 11,500
Tamatave, 200
Wellington, 10

Soda—
Boston, 40 cks.
Jersey, 80 bgs.

Soda Ash—
Barcelona, 18 cks.
Bari, 228 bgs.
Boston, 99
B. Ayres, 370
Cadiz, 25 kgs.
Constantinople, 300
Copenhagen, 1,050
Genoa, 100
Gothenburg, 1,050
New York, 105
Yokohama, 1,900
Christiania, 100

Soda Crystals—
Calcutta, 15 brls.
Limassol, 40
Malta, 200
Varna, 3

Sodium Bicarbonate—
Calcutta, 150 kgs.
Constantinople, 15 dms.
Gothenburg, 28
P. Weld, 10 cks.

Sodium Cyanide—
Delagoa B., 4 t. 10 c. €110

Sodium Silicate—
Calcutta, 30 brls.
Cartagena, 20
Ceara, 10 cks.
Colombo, 5
Genoa, 2,100 bgs.
Lisbon 60 brls.
Melbourne 72 dms.
Naples 16
Salonica, 37
Santos, 19
Soerabaya, 5
Torreon, 500 bgs.

Sulphur—
Colon, 1 kg. €1
Para, 10 c. 3
Tampico, 3 1
B. Ayres, 15 t. 141
E. London, 2 4 25
Montreal, 100 1 113
Trinidad, 2 4 16
Maccio, 2 6 22
Maranham, 19 11
New York, 1 4 18
Norrkoping, 30 135

Sulphuric Acid—
B. Blanca, 7 cs. €13
S. Leone, 1 t. 6 c. 8
B. Ayres, 2 3
Bombay, 3 15 50
Manaos, 2 cs. 1
Bahia, 8 3
Maranham, 2 5 24

Superphosphates—
Malaga, 492 t. 19 c. £1,220
Valencia, 99 247
Teneriffe, 2 2 7
Las Palmas, 29 10 99
V. Garcia, 147 16 288
Durban, 99 5 264

Tallow—
Chinde, 3 brls.

Tartaric Acid—
Callao, 1 cs. £11
Athens, 3 c. 18
Chalcis, 3 18
Piræus, 3 18

Turpentine—
Bombay, 30 dms,

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Venetian Red—
N. Orleans, 734 brls.

Zinc Chloride—
Callao, 4 c. £4
Bombay, 2 t. 15 30
Toronto, 3 13 36

Zinc Muriate—
Stettin, 1 t. 3 c. £12
Bombay, 22 8 290
H. Kong, 1 7

Zinc White—
Parnahyba, 3 cks.

MANCHESTER.

Period ending July 13.

Chemicals (*otherwise undescribed*)
B. Ayres, 138 cks.

Coal Products—
Creosote Oil
N. Orleans, 706,773 g.
Naphthylamine
Antwerp, 67 cks.
Tar
Bordeaux, 160 cks.

Manure—
Bordeaux, 100 bgs.

Salt—
St. Johns, N'fld., 150 t.

Sodium Borate—
Montreal, 8 brls.

Stearine—
Rotterdam, 30 brls.

Zinc Ashes—
Germany, 98 bgs.

GLASGOW.

AMENDMENT IN CUSTOMS ENTRY.

C.T.J., No. 1046, p. 551, June 8.—Manure, Rosario, 146 t. 12 c. *should read* Ammonium Sulphate, Rosario, 146 t. 12 c.

Period ending July 20

Ammonium Carbonate—
Christchurch, 1 t.

Ammonium Sulphate—
Mauritius, 100 t. 3 c.
Yokohama, 102 6 2 q.

Asbestos—
Algoa Bay, £29 13s.

***Bleaching Powder*—**
Canada, 5 c. 5 q.

Carbon Bisulphide—
Dunedin, £20

Caustic Potash—
Yokohama, 2 t. 9 c. 1 q.

Chemicals (*otherwise undescribed*)
Tientsin, £87
Boston, 150
Lisbon, 257

Coal Products—
Carbolic Acid
Rotterdam, 25 t. 6 c. £90
Canada,
Creosote Oil
Hamburg, 9 t. 9 c. £220
Portugal, 300
Bordeaux,
Pitch
Alexandria, £209
Belgium, £32
India, 40
Tar
Canada, £155
Genoa, 200
Sweden, 68
Singapore, 95

***Disinfectants*—** £54
Bangkok,

Dyestuffs (*otherwise undescribed*) £223
Canada, 364
Spain, 129
Calcutta,

Dyestuffs—
Tanners' Extract
Christiania, 7 t. 9 c. 2 q.
Rotterdam, 2 15

Ferro Silicon—
Canada, 50 t.

Fish Oil— £193
Spain, 10 brls.
Rotterdam, 924
Genoa,

Gelatine— £356
U.S.A.,

Glucose— £34
Brisbane,

Glycerine— £320
Canada,

Lead Nitrate—
Canada, 5 t. 5 c.

Linseed Oil—
Alexandria, 43 t. 13 c. 2 q.
Brisbane, 2 4
Cairo, 4 6 3
Delagoa B., 7
Shanghai, 1
Townsville, 3 13 2
Auckland, 2 18 1
Cadiz, 2 9 1
Christchurch, 10 11
17 3
Iquique, 1 18
P. Arenas,
St. Johns, 3 14
N'fld.,
Cape Town, 7 14
Dunedin, 3 14
Lyttelton, 17

Oxalic Acid—
U.S.A., 4 t. 10 c. 1 q.

Paraffin (Solid —
Amsterdam, 2 t. 7 c.

Paraffin Wax—
Kingston, 1 t. 8 c. 1 q.
Portugal, 3 3
Talcahuano, 1 4
Valparaiso, 15
Bordeaux, 2
Genoa, 24 18 1
Palermo, 2 19 3

Phosphate—
Auckland, 65 t.

Potassium Bichromate—
Cairo, 49 c.
Canada, 5 t. 1 2 q.
Toronto, 5 18 1 £980
U.S.A.,
Yokohama, 2 18 2
Rotterdam, 45 1
Dunedin, 1 19
Genoa, 3 11 1
Montreal, 3 18 3
Sweden, 17

Potassium Cyanide— £98
Canada, 200
Kobe, 578
Singapore, 2,452
Auckland, 840
Yokohama,

Red Lead—
Penang, 19 c. 2 q.
Wellington, 3 t. 2
Calcutta, 19
Dunedin, 1 7

Sheep Dip— £185
Pt. Chalmers,

Soap—
Bombay, 4 t. 12 c.
Calcutta, 2 2
Lyttelton, 13
Chetoo, 2 4 2 q.
Talcahuano, 4 1
Shanghai, 3 17

Soap Lyes—
Amsterdam, 18 t.

Sodium Bichromate—
Antwerp, 6 t. 11 c. 1 q.
Montreal, 3 2 2
Genoa, 16 10 1

Sodium Cyanide— £910
Marfil, 910
Parral, 849
U.S.A.,

Tallow—
Alexandria, 7 t. 17 c. 1 q.
Rotterdam, 6 1

Turpentine— £25 10s.
Townsville, £112
Alexandria, 33
Huelva, 157
Amsterdam,

Ultramarine— £35
U.S.A.,

White Lead—
Delagoa Bay, 1 t. 18 c. 3 q.
Natal, 1
Townsville, 5 1
Wellington, 1 2
Calcutta, 19 13 1
Dunedin, 9 4
Invercargill, 2

Zinc Oxide—
Japan, 1 t. 19 c. 1 q.

HULL.

Week ending July 13.

Ammonium Sulphate—
Bremen, { 572 bgs. / 6 cks.
Emmerick-on-Rhine, 142 t.
Italy, 2,327
Rouen, 76

Chemicals (*otherwise undescribed*)
Amsterdam, 119 cks. 1 cs.
Bergen, 7
Christiania, 67 689 slbs.
Copenhagen, 12 1 30 dms.
Dunkirk, 20
Danzig, 4 kgs. 38
Harlingen, 13 cks.
Hamburg, 34
New York, 704 12
Odessa, 148 90 kgs.
Rotterdam, 35
Stettin, 7
St. Petersburg, 5 84
Stockholm, 1 cs.
Stavanger, 1

Coal Products—
Tar
Harlington, 5 cks.
Rotterdam, 6

Cottonseed Oil—
Amsterdam, 11 t. 8 c.
Drontheim, 2 2
Hamburg, 151 17
Rotterdam, 18
Stettin, 3 10
Stavanger, 1 1

Dyestuffs (*otherwise undescribed*)
Boston, 25 cks.

Glue—
Gothenburg, 20 bgs.

Linseed Oil—
Danzig, 1 t. 17 c.
Drontheim, 2 2

Manure—
Ghent, 52 bls.
Hamburg, 850 bgs.
Leghorn, 6,040
Naples, 1,540
Venice, 5,100

Mineral White—
Amsterdam, 200 bgs.
Harlingen, 200

Phosphate—
Drontheim, 30 t.

Salt—
Stockholm, 26 cs.

Soap—
Rotterdam, 10 cks.

Tallow—
Constanti'ple, 20 cks.
Rotterdam, 10
Venice, 32

Turpentine—
Bremen, 1 ck.
Constanti'ple, 20
Copenhagen, 5
Gothenburg, 5
Rotterdam, 5

Wax—
Venice, 50 bgs.

White Lead—
Christiansand, 130 kgs.

TYNE.

Week ending July 13.

Antimony—
Montreal, 2 t. 2 c. 3 q.

Antimony Regulus—
Rotterdam, 15 t.

Bleaching Powder—
Amsterdam, 15 t. 1 c. 2 q. 16 lb.
Bergen and Stavanger, { 5 6 2 10
Copenhagen, 48 19 3 23
Odense, 9 19 2 23
Gothenburg, 57 17 2 24
Christiania, 3 3 2 26

Caustic Soda— 26 lb.
Amsterdam, 5 t. 2 c. 20
Copenhagen, 45 18 3 q. 26
Bergen, 6 3 1 6
Barcelona, 32 9 2 20
Montreal, 34 10 8
Gothenburg, 9 11 1 12
Christiania, 3 10 2

Caustic Soda—
Seville, 39 t. 8 c.

Chemicals (*otherwise undescribed*)
Copenhagen, 1 c.
Montreal, 58 t. 12 12 lb.

China Clay—
Bergen, 15 t.
Seattle, 1 1 c. 3 q. 7 lb.

Coal Products—
Pitch
Antwerp, a quantity
Tar
Antwerp, a quantity
Tar Oil
Copenhagen, 1 t. 7 c.

Cyclite—
Seattle, 2 c. 16 lb.

Infusorial Earth—
Copenhagen, 2 c.

Mineral Wax—
Bergen and Stavanger 10 c.

Red Lead— 11 lb.
Copenhagen, 1 t. 5 c. 3 q.
Aalborg, 2 14 25 lb.
Aarkus, 2 8 25
Gothenburg, 4 2 17
Christiania, 12 2 3

Red Oxide—
Copenhagen, 2 t. 13 c. 20 lb.

Rosin Pitch— 26 lb.
Copenhagen, 1 t. 17 c.

Soda (*otherwise described*)—
Rotterdam, 5 t. 8 c. 2 q. 19 lb.
Bergen, 20
Christiania, 5 9 22

Soda Ash—
Amsterdam, 6 t. 9 c. 1 q. 20 lb.

Soda Crystals—
Seattle, 1 t. 1 c. 3 q. 7 lb.

Sodium Silicate—
Gothenburg, 3 t. 1 c. 2 q. 10 lb.

Sodium Sulphate—
Gothenburg, 250 t. 6 c. 1 q.

Stearine—
Copenhagen, 4 c. 2 q. 26 lb.

Sulphur—
Christiania, 50 t.

White Lead—
Copenhagen, 3 t. 4 c. 2 q. 16 lb.
Gothenburg, 4 2 2 1

GOOLE.

Week ending July 13.

Ammonium Sulphate—
Hamburg, 40 t.
Rotterdam, 51

Chemicals (*otherwise undescribed*)
Amsterdam, 120 cks.
Boulogne, 27 cs.
Dunkirk, 25
Ghent, 7
Hamburg, 301 bgs.
Rotterdam, 30 14 dms.

Coal Products
Benzol
Rotterdam, 44 dms.

Coal Products (*otherwise undes.*)—
Amsterdam, 100 cks.
Boulogne, 129
Hamburg, 17 dms.
Rotterdam, 12 3 pks.

Colours—
Amsterdam, 1 cs.
Antwerp, 8 pks. 6 dms.
Boulogne { 4 cks. / 11 cs.
Rotterdam, 12

Dyestuffs (*otherwise undescribed*)
Antwerp, 1 cs.

Manure—
Dunkirk, 29 bgs.

GRIMSBY.

Week ending July 13.

Chemicals (*otherwise undescribed*)
Hamburg, 7 cks.
Helsingborg, 17
Malmo, 10 12 cs.
Rotterdam, 505 bgs.

Coal Products (*otherwise undes.*)
Dieppe, 3 cks.

Colours—
Hamburg, 13 cks.

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PRICES CURRENT.

FRIDAY, July 26, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids:—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2.000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	32	10	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	16	3
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	47	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes:—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½	to	1¾
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5½
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	94	0	0
,, Sulphate	,,	30	10	0
,, Oxide (copper scales)	,,	84	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	23	0	0
,, Litharge Flake (ex ship)	,,	23	10	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	2	1
Oils:—				
Cottonseed	per ton	30	0	0
Linseed	,,	26	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	15	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7⅝
Sodium (metal)	per lb.	0	3	0
,, Carl. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	25	0	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3¾
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	37	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	186	10	0
Zinc (Spelter)	,,	23	15	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

THE GERMAN CHEMICAL TRADE IN 1906.

THE British Consul-General at Frankfort reports that throughout 1906 the German chemical industry was particularly brisk. The demand was so great that the manufacturers could hardly cope with it, and took refuge in contracts with quite exceptional extensions of time for delivery. Nor did the enlargement of existing works prove of any immediate avail, as, owing to the general boom, machinery and apparatus could not be obtained; so that the facility of increased production will only tell in the future. Some members of the industry believe that in various branches the high-water mark has been reached, for the possibility of manufacture and supply has natural limits, while the increase in the cost of raw material and in wages continues. In calculating the value of shares, which to-day stand at a great premium, this opinion is of paramount importance, and contains a warning of possible fluctuations.

The increased cost of raw material was considerable; it was most felt in coal and saltpetre. Wages increased on an average 5 to 10%, yet the prices of finished articles could only be raised somewhat towards the end of the year. They were not in harmony with the increased cost of manufacture, and the consequent shrinkage has to be made good by an intensified working.

The new tariff which came into operation on March 1 renders all comparisons with former years in this industry particularly difficult, if not impossible. The schedule of goods until then in use had distinguished between raw materials and manufactured goods in the chemical and pharmaceutical industries. To-day the main classes are the following:—Mineral and fossil raw materials and mineral oils, prepared wax, compact fat acids, paraffin, etc.; chemical and pharmaceutical products, dyes and dyestuffs. The new scheme has undoubtedly the advantages of a more minute specification, and in deference to the great advance of this industry, introduces a large number of sub-headings, such as nitrates, silicon carbide and other carbides, compressed gases (with the exception of compressed carbonic acid), formalin, etc. The need of such sub-divisions becomes clear from the fact that in 1905 the general group—not otherwise specified—represented an export value of 29,600,000 marks, and an import value of 9,400,000 marks. The new schedule still contains a general group, namely, chemical products for medicinal use, the export of which amounted to 5,100,000 marks during the ten months of 1906 in which the tariff was in operation. The continuance of some such general group was considered a necessity, because the chemical items for medicinal use are subject to great variations and changes. As many of the older existing groups have been rearranged, it is not possible to prove from statistical comparisons with former

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years, which individual items have been chiefly affected by the new treaties. Yet generally it is calculated that with the exception of a few articles the chemical industry has, during the first year of the new tariff, been able to increase its sales.

While the import of raw materials has been tremendously increased, the export of manufactured articles has either maintained the exceptional figures of 1905, or even surpassed them, as in the case of organic dyes. Certainly the success of the year is assigned to the world's boom, and not to any advantages which the chemical industry has gained from the new treaties. There is, indeed, a consensus of opinion that the German chemical industry has become seriously handicapped in its export, at least to certain countries—*e.g.*, France, Austria-Hungary, and Russia. In the case of Austria-Hungary, for instance, where the customs regulations are enforced with particular rigour, the duty upon the products of the German coal-tar industry has, roughly speaking, been increased twelvefold. In both Russia and Austria-Hungary, branch factories have been established so that an intensified working abroad of German capital, but not of German labour, will be the result. In the treaty with Switzerland, the Federal Government undertook to extend the benefits of its patent laws to chemical produce; but the Bill at present under discussion is condemned by the German chemical industry. Manufacturers complain that, at the conclusion of the commercial treaty, German representatives used terms which were too wide, and which may possibly make this concession to Germany illusory. There was also in the chemical world much dissatisfaction because the new commercial treaty with the United States was delayed. Under the existing customs tariff, the United States are rapidly developing a coal-tar colour industry of their own, and if the new treaty brings no change in this respect, German branch factories in the United States will be the only means of preserving what is left of the market. In the meantime the chemical industry at home is strengthening its position by means of concentration. A collapse of prices, more especially in the colour industry, had suggested some understanding between the leading manufacturers. The lowest possible prices had been reached, together with the cheapest possible individual production. A further reduction in the cost of manufacture could only be attained by means of combination, simplifying the organisation of the existing works, consolidating identical branches of manufacture, reducing the expenses in connection with sales, and abolishing such incidental expenses of competition as advertisements, etc. The patent protection had proved of little avail. Any patent granted had stimulated research in competitive establishments, and the competition resulting from an alternative mode of production reduced the value of the manufactured article below cost price. Thus it is said that one of the direct inducements for combination was offered by the manufacture of synthetic indigo; in fact, as far as this article is concerned, an understanding has been arrived at, not only within certain groups, but between the leading groups themselves; and this understanding is pointed to as possibly the first step towards a gigantic German chemical trust.

The British Consul-General observes that to-day the use of natural indigo has been practically discontinued in Germany and Austria-Hungary; and even France, which has long opposed the use of this German product, now shows a marked preference for it. Russia, Turkey, Egypt, and North America have so far remained the most faithful customers for natural indigo, probably because the sale in those countries is controlled by middlemen, who find the sale of the artificial dye less profitable, because it has a definite market price. There is no doubt that natural indigo has been more rapidly ousted than even the most hopeful manufacturers of the artificial article had anticipated. The values and quantities of import and export of indigo in 1905-06 are given below:—

1905.

	Imports.		Exports.	
	Quantity in 1,000 Tons.	Value in 1,000,000 Marks.	Quantity in 1,000 Tons.	Value in 1,000,000 Marks.
Indigo	0.2	0.1	11.2	25.7
Aniline and other tar dyestuffs	1.7	4.8	36.6	100.6
Alizarin	..	0.1	9.3	15.5
Total	..	5.0	..	141.8

1906.

	Imports.		Exports.	
	Quantity in 1,000 Tons.	Value in 1,000,000 Marks.	Quantity in 1,000 Tons.	Value in 1,000,000 Marks.
Indigo	0.1	0.1	12.7	29.3
Aniline and other tar dyestuffs	2.0	5.5	52.4	110.6
Anthracin dyes (10 months)	..	0.1	4.6	12.8
Alizarin (red)	..	..	7.2	9.8
Total		5.7	..	168.5

From this table it follows incidentally that the value of the excess export of artificial dyestuffs has risen in 1906 against 1905, by 27,000,000 marks.

The following are the dividends of the more important chemical factories:—

	1903. Per cent.	1904. Per cent.	1905. Per cent.	1906. Per cent.
Badische Anilin und Soda Fab.	26	24	27	30
Chem. Fab. vorm. Weiler ter Meer (Uerdingen)	10	8	8	10
Verein chem. Fab. Mannheim.	..	16	19	20
Chem. Fab. Buckau, Magdeburg.	..	..	10	12
Chem. Fab. Electron, Greisheim.	12	12	12	12
Farbwerke vorm. Meister, Lucius and Brüning ..	20	20	24	30
Deutsche Gold und Silber-scheide-Anstalt, Frankfurt-on-Maine		18	22	..
Chem. Werke Albert, Biebrich.	15	18	19	22½
Friedrich Bayer u. Co., Elberfeld	25	30	33	36

Borax Consolidated.—An interim dividend of 5s. per share for the quarter ended March 31 is announced, being at the rate of 10% per annum.

Soap Trade Litigation.—The *Yorkshire Post* says:—"The settlement of the actions brought by Messrs. Joseph Watson and Sons Ltd., soap manufacturers, Leeds, against the Associated Newspapers—and concurrently the dropping of the actions against the *Leeds and Yorkshire Mercury* and the *Glasgow Daily Mail and Record*—involves the unreserved withdrawal of every imputation against Messrs. Watson and the payment to them of very heavy damages. The parties to the settlement are pledged not to divulge the sum agreed upon, and inquiries failed to elicit anything more definite than the statement, made on high authority, that the aggregate amount of compensation to be paid to Messrs. Watson is considerably more than the £50,000. accepted by Messrs. Lever Bros. It is stated that the settlement was arrived at in a most amicable spirit.

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THE BRITISH ASSOCIATION.

LEICESTER MEETING.

THE seventy-seventh annual meeting of the British Association was opened on Wednesday last, at Leicester. The attendance at the meeting was about 1,500, compared with 2,000 at York last year.

On Wednesday afternoon, at a meeting of the Council, the draft report for 1906-7 was approved. It was announced that Mr. Francis Darwin, F.R.S., would be President of the Association next year. The President-Elect is a son of Charles Darwin; he assisted his father largely in his experiments, and is the author of the standard "Life and Letters." He is now Reader in Botany at Cambridge.

THE PRESIDENT'S ADDRESS.

On Wednesday evening, in the Opera House, the President, Sir David Gill, K.C.B., LL.D., D.Sc., F.R.S., etc., late H.M. Astronomer at the Cape, delivered his inaugural address.

The President said:—To-night, for the first time in its history the British Association meets in the ancient city of Leicester; and it now becomes my privilege to convey to you, Mr. Mayor, and to the citizens generally, an expression of our thanks for your kind invitation and for the hospitable reception which you have accorded to us.

Here in Leicester, and last year in York, the Association has followed its usual custom of holding its annual meeting somewhere in the United Kingdom; but in 1905 the meeting was, as you know, held in South Africa. Now, having myself only recently come from the Cape, I wish to take this opportunity of saying that this Southern visit of the Association has, in my opinion, been productive of much good: wider interest in science has been created amongst colonists, juster estimates of the country and its problems have been formed on the part of the visitors, and personal friendships and interchange of ideas between thinking men in South Africa and at home have arisen which cannot fail to have a beneficial influence on the social, political, and scientific relations between these colonies and the mother country. We may confidently look for like results from the proposed visit of the Association to Canada in 1909.

One is tempted to take advantage of the wide publicity given to words from this Chair to speak at large in the cause of science, to insist upon the necessity for its wider inclusion in the education of our youth and the devotion of a larger measure of the public funds in aid of scientific research; to point to the supreme value of science as a means for the culture of those faculties which in man promote that knowledge which is power; and to show how dependent is the progress of a nation upon its scientific attainment.

But in recent years these truths have been prominently brought before the Association from this Chair; they have been exhaustively demonstrated by Sir William Huggins from the Chair of the Royal Society, and now a special guild (The British Science Guild) exists for their enforcement upon the mind of the nation.

These considerations appear to warrant me in following the healthy custom of so many previous Presidents—*viz.*, of confining their remarks mainly to those departments of science with which the labours of their lives have been chiefly associated.

Dealing first with the "Science of Measurement," the President continued: Lord Kelvin, in 1871, made a statement from the Presidential Chair of the Association at Edinburgh as follows: "Accurate and minute measurement seems to the non-scientific imagination a less lofty and dignified work than the looking for something new. But nearly all the grandest discoveries of science have been the reward of accurate measurement and patient, long-continued labour in the minute sifting of numerical results."

Besides the instances quoted by Lord Kelvin in support of that statement, we have perhaps as remarkable and typical an exemplification as any in Lord Rayleigh's long-continued work on the density of nitrogen, which led him to the discovery of argon. We shall see presently that, true as Lord Kelvin's words are in regard to most fields of science, they are specially applicable as a guide in astronomy.

One of Clerk Maxwell's lectures in the Natural Philosophy Class at Marischal College, Aberdeen, when I was a student under him there, in the year 1859, ran somewhat as follows:—

"A standard, as it is at present understood in England, is not a real standard at all; it is a rod of metal with lines ruled upon it to mark the yard, and it is kept somewhere in the House of Commons. If the House of Commons catches fire there may be an end of your standard. A copy of a standard can never be a real standard, because all the work of human hands is liable to error. Besides, will your so-called standard remain of a constant length? It certainly will change by temperature, it probably will change by age (that is, by the rearrangement or settling down of its component molecules), and I am not sure if it does not change according to the azimuth in which it is used. At all events, you must see that it is a very impractical standard—impractical because, if, for example, any one of you went to Mars or Jupiter, and the people there asked you what was your standard of measure, you could not tell them, you could not reproduce it, and you would feel very foolish. Whereas, if you told any capable physicist in Mars or Jupiter that you used some natural invariable standard, such as the wave-length of the D-line of sodium vapour, he would be able to reproduce your yard or your inch, provided that you could tell him how many of such wave-lengths there were in your yard or your inch, and your standard would be available anywhere in the universe where sodium is found."

That was the whimsical way in which Clerk Maxwell used to impress great principles upon us. We all laughed before we understood; then some of us understood and remembered.

Now the scientific world has practically adopted Maxwell's form of natural standard. It is true that it names that standard the metre; but that standard is not one-millionth of the Earth's quadrant in length, as it was intended to be; it is merely a certain piece of metal approximately of that length. It is true that the length of that piece of metal has been reproduced with more precision, and is known with higher accuracy in terms of many secondary standards, than is the length of any other standard in the world; but it is, after all, liable to destruction and to possible secular change of length. For these reasons it cannot be scientifically described otherwise than as a piece of metal whose length at 0° C. at the epoch A.D. 1906 is = 1,553,164 times the wave-length of the red line of the spectrum of cadmium when the latter is observed in dry air at the temperature of 15° C. of the normal hydrogen-scale at a pressure of 760 mm. of mercury at 0° C. This determination, recently made by methods based on the interference of light-waves and carried out by MM. Perot and Fabry at the International Bureau of Weights and Measures, constitutes a real advance in scientific metrology. The result appears to be reliable within one ten-millionth part of the metre. The length of the metre, in terms of the wave-length of the red line in the spectrum of cadmium, had been determined in 1892 by Michelson's method, with a mean result in almost exact accordance with that just quoted for the comparisons of 1906; but this agreement (within one part in ten millions) is due in some degree to chance, as the uncertainty of the earlier determination was probably ten times greater than the difference between the two independent results of 1892 and 1906.

We owe to M. Guillaume, of the same International Bureau, the discovery of the remarkable properties of the alloys of nickel and steel, and from the point of view of exact measurement the specially valuable discovery of the properties of that alloy which we now call "invar." He has developed methods for treatment of wires made from this alloy which render more permanent the arrangement of their constituent molecules. Thus these wires, with their attached scales, may, for considerable periods of time and under circumstances of careful treatment, be regarded as nearly invariable standards. With proper precautions, we have found at the Cape of Good Hope that these wires can be used for the measurement of base lines of the highest geodetic precision with all the accuracy attainable by the older and most costly forms of apparatus; whilst with the new apparatus a base of 20 kilometres can be measured in less time and for less cost than one of a single kilometre with the older forms of measurement.

The President then gave details regarding the progress recently made with the topographic survey of the great African arc of meridian, and before leaving the subject he urged his Majesty's Government to assist the various learned societies in providing funds to carry out this great work.

Continuing, Sir David Gill dealt in an interesting and very complete manner with the developments that have taken place in the various branches of astronomy, the bare outlines of which, however, can only begiven here. The exact measurement of the great fundamental unit of astronomy—the solar parallax—has made great progress. Observations of the transits of Venus have given but uncertain data, and more accurate knowledge is now to be gained from the measurement of angular distances between stars of minor planets. The recently discovered planet

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Eros afforded a most unexpected opportunity of redetermining this constant, and in 1931 Eros will approach the earth within one-sixth part of the Sun's mean distance, when it is hoped that the solar parallax will be ascertained within one ten-thousandth part of its amount. It is suggested that a congress of astronomers should assemble in 1908, to consider what steps should be taken with reference to this important opposition of Eros in 1931.

The subject of star-catalogues of precision was treated at some length, and their use in determining the dynamical conditions of the universe, and something of the velocity and direction of our solar system through space, was carefully explained. It was also pointed out that the value of a star-catalogue of precision for the present purposes of cosmic research varies as the square of its age and the square of its accuracy.

In comparing the progress of astronomy in the Northern and Southern Hemispheres, the President made it the occasion of describing the growth of the Cape of Good Hope Observatory, and he treated in a terse and lucid manner the various historical accounts of the Southern Cross.

Perhaps the most interesting portion of the address was that dealing with the constitution of the Universe, in which was considered a statement by Tobias Mayer, in 1760. "If the Sun, and with it the planets and the Earth which we inhabit, tended to move directly towards some point in the heavens, all the stars scattered in that region would seem to gradually move apart from each other, whilst those in the opposite quarter would mutually approach each other. In the same manner one who walks in the forest sees the trees which are before him separate, and those that he leaves behind him approach each other." Sir Wm. Herschel, in 1783, it was pointed out, made the first attempt to apply with any measure of success Mayer's notion, and he concluded that the Sun's motion in space is nearly in the direction of the star λ Herculis, and that 80% of the apparent motions of fourteen stars could be assigned to this common origin. This idea, however, conveys but a portion of the truth, as it takes no account of the independent motion of the stars themselves. This at once creates a new difficulty, *viz.*, that of defining an absolute *locus* in space. The human mind may exhaust itself in the effort, but it can never solve the problem. We can imagine, for example, the position of the Sun at any moment to be defined with reference to any number of surrounding stars, but by no effort of imagination can we devise means of defining the *absolute* position of a body in space without reference to surrounding material objects. If, therefore, the referring objects have unknown motions of their own, the rigour of the definition is lost. If, however, the peculiar motions of the stars be arranged at random, they may be considered zero in the mean of a considerable number of them. It is then possible to find a common apex for the solar motion as shall leave the residual peculiar motions of the stars under discussion to be in the mean = zero. That is to say, we refer the motion of the Sun in space to the centre of gravity of all the stars considered in the discussion, and regard that centre of gravity as immovable in space. This subject leads directly to the study of stellar parallax, and it was pointed out that what we specially need is not to ascertain the parallax of the individual star, but the mean parallax of a particular group or class of stars—in other words, the centre of gravity of any extensive group of stars.

Here the brilliant work of Professor Kapteyn, of Groningen, on the determination of stellar parallax, was magnificently described. Adopting an approximate position of the apex of the solar motion, Kapteyn resolved the observed proper motions of the Bradley stars into two components, *viz.*, one in the plane of the great circle passing through the star and the apex of the other at right angles to that plane. From the former the mean parallactic motion of the group is derived, and from the combination of the two components the relation of velocity of the Sun's motion to that of the mean velocity of the stars of the group. It was shown that the true value of the Sun's velocity lies between 18 to 20 kilometres per second.

Another extremely interesting portion of the address was that on the density of stellar distribution at different distances from our Sun. Starting from the Sun, the star-density (*i.e.*, the number of stars per unit volume of space) is pretty constant till a distance is reached of some 200 light-years. Thence the density gradually diminishes till, at about 2,500 light-years, it is only about one-fifth of the density in the neighbourhood of the Sun.

The President next considered the question of the future course of astronomical research, and in conclusion said :—"The ancient philosophers were confident in the adequacy of their intellectual powers alone to determine the laws of human thought and regulate the actions of their fellow men, and they did not hesitate to employ the same unsupported means for the solution of the riddle of the universe. Every school of philosophy was agreed that some object which they could see was a fixed centre of the universe, and the battle was fought as to what the centre was. The absence of facts, their entire ignorance of methods of exact measurement, did not daunt them, and the question furnished them a subject of dispute and fruitless occupation for twenty-five centuries. But astronomers now recognise that Bradley's meridian observations at Greenwich, made only 150 years ago, have contributed more to the advancement of sidereal astronomy than all the speculations of preceding centuries. They have learned the lesson that human knowledge in the slowly developing phenomena of sidereal astronomy must be content to progress by the accumulating labours of successive generations of men ; that progress will be measured for generations yet to come more by the amount of honest, well-directed, and systematically discussed observation than by the most brilliant speculation ; and that, in observation, concentrated systematic effort on a special thoughtfully selected problem will be of more avail than the most brilliant but disconnected work. By these means we shall learn more and more of the wonders that surround us, and recognise our limitations when measurement and facts fail us.

Huggins's spectroscope has shown that many nebulæ are not stars at all ; that many well-condensed nebulæ, as well as vast patches of nebulous light in the sky, are but inchoate masses of luminous gas. Evidence upon evidence has accumulated to show that such nebulæ consist of the matter out of which stars (*i.e.*, suns) have been and are being evolved. The different types of star spectra form such a complete and gradual sequence (from simple spectra resembling those of nebulæ onwards through types of gradually increasing complexity) as to suggest that we have before us, written in the cryptograms of these spectra, the complete story of the evolution of suns from the inchoate nebula onwards to the most active sun (like our own), and then downward to the almost heatless and invisible ball. The period during which human life has existed on our globe is probably too short—even if our first parents had begun the work—to afford observational proof of such a cycle of change in any particular star ; but the fact of such evolution, with the evidence before us, can hardly be doubted. I most fully believe that, when the modifications of terrestrial spectra under sufficiently varied conditions of temperature, pressure, and environment have been further studied, this conclusion will be greatly strengthened. But in this study we must have regard also to the spectra of the stars themselves. The stars are the crucibles of the Creator. There we see matter under conditions of temperature and pressure and environment, the variety of which we cannot hope to emulate in our laboratories, and on a scale of magnitude beside which the proportion of our greatest experiment is less than that of the drop to the ocean. The spectroscopic astronomer has to thank the physicist and the chemist for the foundation of his science, but the time is coming—we almost see it now—when the astronomer will repay the debt by wide-reaching contributions to the very fundamenta of chemical science.

"By patient, long-continued labour in the minute sifting of numerical results, the grand discovery has been made that a great part of space, so far as we have visible knowledge of it, is occupied by two majestic streams of stars travelling in opposite directions. Accurate and minute measurement has given us some certain knowledge as to the distances of the stars within a certain limited portion of space, and in the cryptograms of their spectra has been deciphered the amazing truth that the stars of both streams are alike in design, alike in chemical constitution, and alike in process of development.

"But whence has come the two vast streams of matter out of which have been evolved these stars that now move through space in such majestic procession ?

"The hundreds of millions of stars that comprise these streams, are they the sole ponderable occupants of space ? However vast may be the system to which they belong, that system itself is but a speck in illimitable space ; may it not be but one of millions of such systems that pervade the infinite ? We do not know. 'Canst thou by searching find out God ? canst thou find out then Almighty unto perfection ?'"

The presidential address in Section B. (Chemistry), and also special abstracts of other Sectional addresses, will appear in our next issue.

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THE INSTITUTE OF CHEMISTRY.

JULY EXAMINATIONS, 1907.

THE following were the papers set at the Intermediate and Final (A.I.C.) Examinations of the Institute :—

Intermediate Examination.

General and Theoretical Chemistry.

Tuesday, July 2nd.—Four questions to be answered. (1) Give the formula of every "per" acid which you know and of a salt of each acid, indicating modes of preparation and properties in each case. (2) Calculate the heat of combination of Ca and O from the equations :

(1) $CaO + 2HCl = CaCl_2 + H_2O + 52.7$ Cal.
(2) $Ca + Cl_2 = CaCl_2 + 169.8$ Cal.
(3) $H_2 + O = H_2O + 57.9$ Cal.
(4) $H + Cl = HCl + 22.0$ Cal.

Mention a condition which must be identical in equations (1) and (3) in order that the calculation may give a correct result. (3) How is fluorine prepared? In what chemical characteristic does it differ from other members of the halogen group? (4) What is the ordinary source of cadmium? Compare its chemical and physical properties with those of lead and zinc. (5) Mention any substances which can be obtained in the electric (not electrolytic) furnace and by no other means. What are the characteristics which these substances have in common? (6) What reactions take place when a solution of sodium chloride is electrolysed between unattackable electrodes (*a*) with and (*b*) without a diaphragm. In the latter case, what effect (if any) is due to the temperature of the electrolyte? Give equations as far as possible.

Four questions to be answered. (1) State the principal methods of preparing amines of both the fatty and the aromatic series. Describe the actions of nitrous acid on those compounds, or their salts, and indicate the uses of the products thus obtained from primary aromatic amines. (2) Describe the characteristic properties of beryllium and its compounds, and compare and contrast these with the corresponding compounds of aluminium. (3) From what natural sources can cinnamic acid be obtained, and how is it prepared synthetically? Explain fully how you would proceed to elucidate the constitution of the acid. Trace the steps in the process by which cinnamic acid can be converted into indigotin. (4) Describe the various applications of the chlorides of phosphorus, aluminium, iron, and tin respectively in the preparation or investigation of carbon compounds. (5) Give a full description of the principal fermentation processes which are of technical importance for the preparation of organic substances. (6) Write a brief account (*a*) of the principal methods of liquefying refractory gases, stating clearly the principles upon which they are based, and (*b*) of the investigations which have been made on chemical action at low temperatures.

Wednesday, July 3rd.—(1) Determine the total chlorine and the free hydrochloric acid in the sample, A, which is a solution of sodium chloride in dilute hydrochloric acid. (2) Fully identify the given compound, B, and leave a purified specimen of at least one derivative obtained in the course of the investigation. (Ethyl benzoate, ethyl succinate, methyl salicylate ; one to each candidate.)

Thursday, July 4th.—(1) Determine the percentage of nitrogen in the given compound by Kjeldahl's process. Investigate the manner in which the nitrogen is combined, and leave specimens of any derivatives which you can obtain. (Oxamide, oxanilide, oxamethane ; one to each candidate.) (2) Identify by the spectroscope the two metals in the given mixture. (Lithium and calcium carbonates, lithium and strontium carbonates, lithium and barium carbonates ; one to each candidate.)

Friday, July 5th.—(1) Make a complete qualitative analysis of the given alloy. (Copper, lead, tin, and nickel.) (2) Estimate the weight of copper in 100 c.c. of the given solution : (i.) by a gravimetric method, and (ii.) volumetrically, by the thiosulphate method.

Final Examinations for the Associateship.

Branch "A."—Mineral Chemistry.

Tuesday, July 9th.—Analyse the sample of carborundum.

Wednesday, July 10th.—From the lead nitrate provided, prepare specimens of (*a*) pure oxygen, (*b*) pure nitrogen peroxide, and (*c*) pure nitrogen.

Thursday, July 11th.—Determine the silica and lead oxide in the sample of glass.

Friday, July 12th.—Determine the phosphorus in the sample of phosphor tin.

Branch "B"—Metallurgical Chemistry.

(1) Determine the percentage of copper and silver in the given sample of copper antimony silver ore, or, take a cooling curve of the given alloy and determine its solidifying point. (*If this exercise be chosen it must be finished on the first day.*) (2) Examine and report upon the sample of pig iron submitted to you with reference to its suitability for manufacture of steel in the acid open hearth process.

Thursday and Friday, July 11th and 12th.—(1) Examine and report upon the sample of coal submitted to you as to its suitability for the manufacture of coke for blast furnace purposes. (2) Determine the percentage of tin, antimony, and copper in the given sample of white metal, or, examine microscopically the samples of copper tin alloy, and steel submitted to you, and describe in detail their structure. Heat the sample of steel for 20 minutes at a temperature of 780° C., and cool slowly. Prepare a low and high power photomicrograph of the steel after heating and slow cooling.

No candidate was examined in Branch "C" (Physical Chemistry.)

Branch "D."—Organic Chemistry.

Tuesday, July 9th.—(1) Determine by Kjeldahl's process the percentage of nitrogen in the given substance. (Succinimide.) (2) Investigate the character of the substance as fully as possible, and prepare specimens of at least two crystalline derivatives.

Wednesday, July 10th.—(1) Examine the methyl alcohol, A, determine the proportion of any impurity found, and prepare a specimen of the pure alcohol. (2) Identify the ingredients of the mixture B, and ascertain approximately the proportions in which they are present. (Methyl oxalate and oxanilide.)

Thursday, July 11th.—(1) Prepare from the given salt a specimen of its base, and determine its solubility in water at 100°. (2) Prepare from the base specimens of characteristic derivatives other than salts. (3) Identify the salt, and estimate the percentage of the acid radicle. (Benzidine sulphate).

Friday, July 12th.—(1) Determine, by the cryoscopic method, the molecular weight of the given substance. (Amygdalin.) (2) Investigate the substance as fully as time will permit. Leave on your bench specimens of any products you obtain.

Branch "E."—The Analysis of Food and Drugs, and of Water.

Monday, July 1st.—Therapeutics and Pharmacology.—(1) Write a full description of the chief active substance present in belladonna leaves, and give the pharmacopœal method for its extraction. Enumerate its official preparations and their full medicinal doses. (2) Compare the pharmacological characters of the perchloride and subchloride of mercury. Discuss the practical therapeutic employment of these salts. (3) Enumerate the drugs which are commonly administered by injection under the skin. Give the strength of the solutions so used, and mention in each case the full dose for injection. (4) What indications pointing to the consumption of the following drugs can be obtained by an examination of the urine :—Chloral hydrate, silicin, phenol.

Oral and practical examination in the recognition of chemicals and drugs.

Microscopy. (1) The fabric, A, is seen to be smeared with adherent matter. Examine this microscopically and report upon it. Leave upon your bench the prepared slides you obtain from it. (2) B and C are food substances in powdered form. Make a microscopic examination of each and report upon the result. (3) Make a clean permanent preparation of starch granules from the potato provided. Leave the prepared slide upon your bench. (4) Identify the objects on the slides 1 to 6.

Tuesday, July 2nd.—(1) Examine the sample of milk as if submitted to you under the Sale of Food and Drugs Acts, using the official form supplied to you. Determine the fat by at least two different methods. (2) Examine the sample of crude carbolic acid with a view to ascertaining if it complies with the requirements of the following specification :—"The sample shall be free from tar oils, contain not less than 95% by volume, of tar acids and not more than 5% of water. It shall be wholly soluble in caustic soda of sp. gr. 1.07."

Wednesday, July 3rd.—(1) Examine and report upon the sample of jam with reference to the proportions of cane and

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invert sugar respectively, and to the presence of foreign fruits. (2) Ascertain if the sample of Pil. Hydrarg. complies with the requirements of the British Pharmacopœia.

Thursday, July 4th.—(1) Determine the poison in the given specimen of stomach contents. (Phosphorus.) (2) Make such determinations (higher alcohols excepted) on the sample of brandy as will enable you to express an opinion as to its genuineness. (This exercise to be completed to-morrow.)

Friday, July 5th.—(1) Complete the examination of the brandy. (2) Make a qualitative examination of the sample of baking powder, and estimate the amount of available carbonic acid.

The candidate is required to construct the apparatus necessary for this determination.

(3) Examine and report on the genuineness, or otherwise, of the sample of powdered drug. (Gentian root.)

Reports of Companies.

THE ZINC CORPORATION.

On Tuesday last a special meeting of shareholders of the Zinc Corporation was held, Mr. F. A. Govett (chairman) presiding. The Chairman said they had met to consider the position of the company in order to determine what funds should be raised to carry their business to a successful conclusion. They had borne a burden of anxieties and responsibilities on their shoulders. It had been a horrible position made even worse by the correspondence they had received. He had suffered under his position, and it was a relief to meet them at this meeting. He had done, and would do, honestly, honourably, and earnestly, his best in their service. Some shareholders thought the starting-point of reform would be a clean sweep of the board, but he thought a clean sweep of the board might mean a complete breakdown. They now had a single control in England, instead of the board being halved at the end of a long cable, and their managers were their sole representatives in Australia. This he regarded as vital to the proper management of their affairs. When the company was formed there were four or five rival processes for working, and they adopted the mineral separation process. All the processes were now the same, and they had decided to instal sixteen units of the Elmore plant. They wanted money to do this, and they proposed to create 182,000 preference shares of £1. each. These sixteen units would be half the mill, and would cost £50,000. to construct. They had £275,000. worth of assets, against which they had £30,000. worth of debts. The immediate objects of the increase of the capital were the completion of the construction of half of the new plant, the repayment of the £30,000. temporary loan, and £22,500. every three months for tailings. He concluded by formally moving that the capital be increased to £682,000. by the creation of 182,000 preference shares of £1. each, that the 500,000 shares in the existing capital be called ordinary shares, and that the preference shares be offered in the first place to the shareholders pro rata in the proportion of two new shares to each five ordinary shares.

Several shareholders put questions, and on the resolutions being put to the vote they were carried by a large majority.

BRYANT AND MAY, LTD.

The report states that the net profits for the year to June 30 amounted to £128,423., and the directors declare the full dividend on the preferred shares, and dividends amounting to 6% for the year on the deferred shares. The sum of £25,000. is placed to general reserve, and £12,223. is carried forward. The board are of opinion that the Californian property, which is owned jointly with the Diamond Match Company of America, may be properly formed into a separate company, and it is hoped that a proposal with that object will be submitted in the next few months.

ARIZONA COPPER COMPANY.

The half-yearly report to March 31 states that the surplus after payment of preferential dividends, subject to capital expenditure, redemption of debt, and contingencies is £235,913. The amount brought forward makes the available surplus £247,421., out of which the directors have resolved to pay interim dividends of 2s. 3d. per share free of tax on the preferred ordinary and deferred ordinary shares, leaving a balance of £76,433. to be carried forward. The report states that the results were seriously affected by the flood in December last, and the bursting of a neighbouring dam. The actual amount expended in repairing the damage done exceeded £30,000., in addition to which there was a much larger amount of indirect loss, the operations of the company being suspended for nearly a month. The output for the half-year was also affected by the prevailing labour conditions.

ZAPIGA NITRATE CO., LTD.

The report states that the gross trading profit for the year is £15,151., and, after providing for the statutory reserve, the deduction of the usual general charges, loss on exchange, debenture interest and income tax, there remains a balance of £9,554. An interim dividend of 1s. per share was paid on October 1st, 1906, absorbing £4,000., and it is now proposed to carry forward the balance of £5,554. The earnings for the period under review have been affected, in common with other nitrate concerns, by the abnormal cost of stores and the rise in wages. It has been found necessary to spend £13,277. in additions to the plant in order to obtain the most economical results from the raw material treated.

BRITISH OIL AND CAKE MILLS, LTD.

The interim report states that the anticipation of satisfactory trading held out at the last general meeting has been realised. The net trading profit amounts to £93,708., against £62,251. for the corresponding six months in 1906. A further encouraging feature is the continued increase in the volume of the company's trade. The board is sanguine that it may be able at the end of this year to increase the reserves.

Continental Notes.

THE *Chemische Industrie* for July 1 contains the annual report for 1906 of the inspectors of the Trade Guild for the Chemical Trade of Germany, and, as usual, there are given descriptions and illustrations of a number of new safety appliances for use in chemical works. These include appliances for emptying and filling vessels with liquefied chlorine and other compressed gases, for operating valves from a distance, a protective shield for acid cocks, a soap press, and an arrangement for the pipes of compressed air reservoirs. The number of accidents showed an increase over the previous year, amounting to 11,169 as compared with 11,010; 1,744 of these ranked for compensation, and 129 persons were killed. Several accidents happened through the splitting of the fly-wheels of steam engines which had attained too high a speed in consequence of the failure of the governor, which in each case was driven by a single belt. This belt came off and caused the accidents, one of which was a fatal one. It is now recommended that there shall in future be a second independent belt to drive the governor; the belts are to be examined every day; and there is to be a valve which will not pass through more than the maximum amount of steam that the engine can safely take. Under the heading of explosives, particulars are given of the disastrous explosion at the Roburite factory at Witten, which caused the deaths of 39 persons. No definite conclusions have been arrived at as to the cause of the catastrophe. It will be remembered that a fire first broke out in the mixing room, which after a short time exploded and set fire to many of the other buildings in the factory, amongst others the sheds in which the raw materials, ammonium nitrate, trinitrotoluene, etc., were stored. The quantity of these materials was very considerable, and after a time they also exploded with terrific violence. Details will be found of a number of other accidents.

In the *Elektrochemische Zeitschrift* for July there appears a paper by Wiechmann, describing a new primary electric cell, which he claims to possess special advantages. It consists of plates of metallic zinc and oxide of copper in a saturated solution of caustic soda. When a current passes, the zinc is oxidised and the copper oxide reduced, sodium dioxide being formed as an intermediate product, which, however, soon passes its oxygen on to the zinc. The consumption of zinc is said to be little more than the theoretical.

In the same issue there are instalments of articles on the production of ozone, the metallurgy of tin, and the electrometallurgy of iron.

The *Zentralblatt für die Kunstdunger-Industrie* for June 7 contains an article by Dr. Ehrenburg on nitrification and its function in agriculture. It is true that plants are capable of taking up ammonia compounds directly, and utilising them as food stuffs, but in soil containing lime the roots will suffer through the liberation of ammonia, which exerts a caustic action

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on them. In neutral soil, on the other hand, the plants are injured by the acid action of ammonia salts, except in the case of plants that have a special liking for acid. When it is desired to manure with ammonia salts, it is therefore necessary to encourage the bacteria which convert them first into nitrites and then into nitrates,

In the same issue there is an account of experiments carried out by J. Sebelien, to ascertain the comparative value of the various nitrogenous manures. The effectiveness of these is very different in different cases.

In the issue for June 21, Dr. M. Weitz brings forward some criticisms of the statements that have been made by Professors Frank and Birkeland in advocating the artificial production of nitrogen compounds from atmospheric nitrogen. He denies that there is any danger of the deposits of saltpetre giving out in about forty years' time. On the contrary, with the new fields that have recently been discovered there is no fear of the supply falling off before the end of the present century. He points out various disadvantages of "lime-nitrogen," such as its property of absorbing large quantities of water from the air. It is true that sodium nitrate is also somewhat hygroscopic, but not to such an extent as to prevent its use for so many chemical and agricultural purposes. In spite of all that has been said and written about the utilisation of the nitrogen of the air, very little calcium cyanamide or calcium nitrate has yet been placed on the market.

There is also a paper by Dr. M. Hoffmann, on the utilisation of the carcases of animals, which at present are frequently wasted.

Indian Notes.

MARKET movements (Calcutta, 4th July) are reported as under:—

Borax.—Offerings are very small, and prices are Rs.14.12. to Rs.15.8. per bazar maund weight, loose, for quick delivery.

Castor oil cake.—Owing to the continued lightness of export orders, prices have given way to Rs.5.14. to Rs.6.2. per bag of two maunds, f.o.b., for short-date shipment. Offerings are low.

Cocoanut oil.—Prices are maintained. Prices are Rs.20.8. to Rs.21.8. per bazar maund weight, loose. Stocks are light, and supplies continue inadequate, owing to dear prices.

Beeswax has continued in strong request for Singapore and Straits Settlements, at Rs.81.0. to Rs.88.0 for locally refined white sorts, and Rs.71.0. to Rs.85.0. for raw, per bazar maund weight, loose. Stocks and supplies are very small.

Castor oil is firm, and crushers are very reluctant sellers at present prices, owing to short production. Quotations are Rs.19.0½. for fine pale medicinal quality; Rs.14.10½. for good seconds; and Rs.13.14½. for thirds, in cases, per bazar maund weight, f.o.b. for prompt delivery. Buyers generally are holding off.

Saltpetre, superior lower refraction quality, continues very scarce, and rates are dearer, *viz.*:— Rs. 8.8. to Rs. 8.9. for ordinary 5% refraction quality, prompt delivery; and white Furrackabad refined 5% refraction qualities are quoted Rs.9.0. to Rs. 10.0. per factory maund weight, loose, for near and early deliveries. Supplies are light.

Bone meal.—Owing to the inclemency of weather, supplies of raw bones have been very small, and demand has been limited. The prices remain steady at Rs.72.0. for New Zealand quality, Rs. 68.0. for steamed quality, and Rs.62.0 for unsteamed quality, guaranteed 4½% ammonia, and 52% tribasic phosphate of lime, per ton of 20 cwts., f.o.b., packed in new "A" twill bags, of 200lbs. each net. Bone dust is still quoted at Rs.52.0 for steamed and Rs.50.0. for unsteamed, guaranteed 3¼% ammonia and 40% tribasic phosphate of lime per ton, f.o.b. Offerings of all grades are very moderate.

The salt market closed easy. Local stocks held, in maund weights, were, ex Liverpool, 595,333; Hamburg, 123,202; Saliff, 118,709; Spanish, 116,592; Port Said, 61,826; and Bombay, 125,529. Quotations per maund were:—Liverpool, Rs.50.0. to Rs.56.0; Hamburg, Rs.52.0. to Rs.60.0.; Saliff, Rs.50.0 to Rs.68.0.; Spanish, Rs.53.0. to Rs.74.0.; Port Said, Rs.52.0. to Rs.73.0.; and Bombay, Rs.53.0. to Rs.54.0. The Government of India, in a resolution, state that the time has now arrived for a general reduction in the rates of carriage of salt by railways, and the Railway Board direct that on and after the 1st December next, the maximum and minimum rates for salt on railways administered by the State shall be the same as those prescribed for coal.

CHEMICALS IN SPAIN.—II.

IN his report of the district of Bilbao for 1906, Mr. Consul Maclean remarks that the population of Bilbao is approaching 100,000, the majority dependent on the mines or industries connected therewith. It has been foreseen that some day the mines will be worked out, but all ore exported has been subjected to a tax, a portion of the product of which has provided the necessary funds for improving the river, port, and harbour, with the view of making Bilbao an important commercial port for Spain. The work has been in progress for some years and still continues, the progress being slow but satisfactory. It has already become a port of call for vessels from the United Kingdom, North and West Europe, trading with Central and South America, and new quays in deep water for the better accommodation of such vessels are in course of construction.

Statistics concerning the importation of Portland cement are not obtainable, but as there was no work undertaken during 1906, in which the British product was utilised, it is probable that there was a smaller quantity imported than in 1905. A beginning having been made in the construction of new quays, there may be a demand for Portland cement during the next two years. New buildings are being constructed of ferro-concrete, most of the cement used being produced in Spain.

A French company, established at Sestao, on the River Nervion, utilise in the manufacture of their cement the slag of the Vizcaya Ironworks. Besides the work they have undertaken in Bilbao and district, this company have obtained important construction contracts in other parts of Spain.

About 7,200 tons of tar were produced locally, principally by the Altos Hornos Ironworks. Of the products, some 1,667 tons of creosote were exported to France, Algeria, and Belgium, and 34 tons of carbolic acid to Germany; the remainder of the production was consumed in the country. Sulphate of ammonia is only produced by the ironworks; part is purchased locally for the manufacture of nitrate of ammonia, and the remainder is exported.

The Spanish olive oil crop showed a decrease of 12% compared with that of 1905, and this was reflected in shipments from Bilbao—5,727 gallons against 8,628.

Ordinary paints and varnishes are made in Spain, only the better qualities being imported from the United Kingdom. Soap is almost entirely manufactured locally, only a small quantity of toilet soap, chiefly from France, being imported. Perfumery is also imported from France.

The Unión Resinera Española produced during 1906—

——	Quantity.	Increase.
	Tons.	Tons.
Colophony	14,601	2,445
Turpentine	3,982	946

The sales in the country were:—Colophony 7,343 tons; turpentine 790 tons.

Some 2,490 tons of turpentine were sold abroad, principally to the North of Europe and Switzerland, whilst the United Kingdom took the major part of the 5,533 tons of colophony that were exported.

The fall in the rate of exchange has adversely affected this company's profits on sales abroad, but on the other hand, the cost of production has been reduced by improved methods. The company has invested 250,000 fr. in a society formed in Antwerp to control the French production, which is the principal competitor in Europe up to now of the Spanish company, and by this arrangement to regulate prices it expects to diminish speculation.

The following table shows principal imports into Bilbao during 1906:—

	U.K.	France.	Belgium.	Germany.	U.S.A.	Average for 5 years.
Bitumineous schists, petroleum.	449½	21½	393½	236½	3,888	4 714
Chrome ore	63½					152
Raw phosphates (since July only)					2,112	
Raw materials for chemical purposes (Netherlands)	163½	848	38½	16½	457	3,110½
Colours, dyes etc.	208¾	161¼	125½	63½	1½	5 74
Chemical and pharmaceutical products	4,171½	2,890½	6,628½	841½	5,765	18,786
Starch, stearine, soap, paraffin, wax, perfumery, explosives, and mining fuses.....	44½	6½	76½	181½	48	For 4 years only. 385½

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SANTANDAR.

Mr. Vice-Consul Single reports that the port of Suances exported 12,968 tons of zinc ore, and those of Comillas, San Vicente de la Barquera and Tinamayor 4,650 tons. The greater portion of this ore was sent to Antwerp and Dunkirk.

The coal imported from the United Kingdom amounted to 86,442 tons, the greater portion of which was destined to the blast furnaces. The balance was taken by the railway and mining companies.

SWEDISH TRADE IN 1906.

MR. Consul M. Villiers, in his report on Swedish trade in 1906, states that British trade in Sweden might be much developed. Most of the Swedish exports go to the United Kingdom, but few of the imports come from there, the reason for this being that the traders do not know how to enter into trade with a country practically unrepresented by travellers.

Swedish matches continue to increase in popularity. The export for 1906 was 20,032 tons compared with 18,673 tons of the previous year.

Cement bids fair to become one of the principal articles of export; 38,548 tons were exported in 1905, and 45,959 tons in 1906. A considerable quantity was exported both to San Francisco and Valparaiso after the earthquakes, and is reported to have given satisfaction.

Chemical pulps have obtained good and steady prices; the export has increased; the returns to the manufacturers have been satisfactory; and, although the industry has been enormously expanded, both by enlargement of existing mills and the construction of many new ones in various directions, so that the possible production has been increased by 100,000 tons annually, the consumption has hitherto, at any rate, kept pace with the additional quantities produced. Mechanical pulp manufacturers, however, have not fared so well, as the price of timber rose about 20% in 1906 compared with 1905; but the price for pulp, though higher, has not risen in proportion. British imports have increased, but there is practically no increase in the production of mechanical pulps. The rise in prices of pulpwood is, moreover, expected to continue, owing to the requirements of the new sulphite mills.

The greatest rival of chemical pulp in the market is the esparto grass of Tunis. Steps are being contemplated to protect the growth of this grass, and, if a reduction of the crop results, Sweden hopes to benefit thereby. During the year 1906, of all wood pulp imported into the United Kingdom, 44% came from Sweden (35% in 1901); 38.1% from Norway (43.6% in 1901); and 7.4% from Canada (12.9% in 1901).

The discovery of a method of manufacturing artificial "india-rubber" opens out large possibilities. Samples were sent to the Board of Trade. Some large orders have been received from the United Kingdom. It can be very practically used for filling tyres; the trials have given great satisfaction.

The question of secret commissions, which has recently attracted legislative attention in the United Kingdom, has to be borne in mind in trading with Sweden, to judge from what is written in the Press, apart from what may be learnt from other quarters. The system of commissions, special discounts, and kindred methods seems to pervade transactions of all kinds and classes, from the purchases by domestic servants on behalf of their mistresses, to contracts of the largest and most important kind.

LULEA.

Mr. Vice-Consul Westerberg reports as follows:—The quantity of iron ore shipped from here during 1906 was 1,216,780 tons, showing an increase compared with 1905 of 144,780 tons. Of the total quantity shipped, 179,000 tons were intended for the United Kingdom, whereas 430,000 tons went to the Netherlands, 558,780 tons to north-west Germany, 21,700 tons to Belgium, and 26,400 tons to France. From the Kiruna and Tuolluvara mines 1,558,635 tons of iron ore were carried on the railway Kiruna-Norwegian frontier into Norway, whence the ore is shipped from.

NORRKOPING.

Mr. Vice-Consul Helander reports as follows:—Iron ore is exported in large quantities from Grangesberg viâ Oxelösund, from Gellivare viâ Luleä, and from Luossavaara and Kirunavaara by rail viâ Narvik in Norway, the whole business being nominally controlled by the Trafikaktieboleget Grängesberg-Oxelösund. The annual quantity to be exported from Luossavaara and Kirunavaara has been fixed by the Government at 1,200,000 tons, and on asking to be allowed to export an extra quantity of 400,000 tons in 1906, the company only got permission to export 300,000 tons, so the remainder of 100,000 tons had to be shipped viâ Oxelösund.

The export of iron ore from Oxelösund in 1906 amounted to the considerable figure of 786,663 tons, out of which 673,573 tons were carried to Rotterdam to be forwarded up the Rhine into Germany, 86,710 tons to Stettin, 19,525 tons to Emden, 2,180 tons to Middlesbrough, 2,040 tons to Antwerp, 1,430 tons to Lübeck, 769 tons to Finland, 238 tons to Hull, and 195 tons to Rendsburg.

HINTS TO SOAP EXPORTERS.

OPPORTUNITIES for export trade are better for toilet than for ordinary soaps, as the production of the latter abroad is greatly on the increase. The Far Eastern markets in particular offer openings for the sale of cheap toilet soaps; Japan and South Africa for the better kinds, whilst South and Central America purchase, principally, from abroad only the finer descriptions.

In the opinion of the Austro-Hungarian Consul at St. Gall, more business might be done in Switzerland in toilet soaps, with the aid of effective advertising and energetic travellers.

From Braila it is reported that perfumery is selling in Roumania in increasing quantities,as well as fine soaps, hair washes, and other articles of toilet.

A useful hint from Scutari is that toilet soaps should be strongly scented with musk in order to obtain a ready sale.

The needs of the Salonica market for toilet articles are of importance, as the purchases for the whole of the province are made there. British manufacturers have to meet active competition from French, Italian and German firms, and should take care to pay regular visits to this market in order to keep an eye on such foreign competition, and on the taste and requirements of buyers. If this is done, together with proper advertising, a considerable extension of trade in toilet soaps, perfumery, powders, tooth and hair-washes, as well as cosmetics, should eventuate. Salonica buyers are quite alive to the superiority of imported soaps over those of home manufacture. A form in which French soap sells well is in rectangular cakes of one kilo. at four silver piastres (8¾d.) a cake; the fact of its being sold by the manufacturer in a dry state finds favour. The Turkish soap, which is strong in caustic soda, retails at 4 piastres per ocque (78 ocque = 100 kg.) for white kinds, and at 3 to 3½ piastres for green sorts.

A French Consular report has been calling attention to the excellent chance of increasing business in Cyprus in perfumery and soaps. Common household soap is supplied chiefly by Turkey and Greece.

In Indian importations of soap a 50% increase, compared with the preceding year, took place in 1905. The greater consumption here indicated is contributed to by the poorer classes of Indians, who are likely to cause a still larger increase in importations in the future.

Soap is an important article of trade in Siam, and has increased considerably in demand in the last year or two. In the finer kinds, however, sales are still small. The most saleable descriptions are:—Cheap curd soap, in boxes of 50 and 100 lbs., in long bars; very cheap kinds of toilet soaps; also Windsor soaps in boxes of 50 to 100 tablets.

China, according to the Austro-Hungarian Consul at Hong-Kong, is showing a preference for almond scented yellow soap. The price for ordinary blue mottled soap at Hong-Kong is 12s. per 100 lbs., c.i.f.

In Abyssinia the trade is chiefly in the cheapest kinds of soap. It is sold in ½lb. bars, and costs at Djibouti about 40s. per 100 kilos. At Adis Abeba the price is somewhat higher.

Imports of soap and perfumery into Brazil are confined to the finest qualities, as medium and common kinds are made in the country. The first-named have to pay the same import duty as the medium quality goods, namely 4,000 reis per kg. gross, including packing, etc. Ordinary soap pays only 400 reis per kg., but the Brazilian Customs officials class practically all foreign soap as perfumed, and charge the higher rate.—*Handels Museum.*

THE SPANISH SUGAR BILL.—The Senate has passed the Bill or the regulation of the sugar industry by the prevention of ver-production.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Graphite. G. Staley. 16,200. July 15.
Drying and Evaporating Processes. H. Kayser. 16,206 July 15.
Extraction of Zinc from its Sulphide. T. J. Heskett. 16,217. July 15
Amalgamators. H. I. Seeman. 16,218. July 15.
Purifying and Clarifying Water, etc. L. Linden. 16,239 July 15.
Products Resembling Resin. J. Y. Johnson. 16,245. July 15.
Anthracene Compounds. J. Y. Johnson. 16,246. July 15.
Cement Manufacture. S. O. Cowper-Coles. 16,249. July 15.
Gas Producers. Tangyes, Ltd., and J. Robson. 16,342. July 16
Concentration of Liquids. H. W. Lake. 16,344. July 16.
Suction Gas Producers. A. Haughton. 16,397. July 17.
Refining Crude Petroleum. D. Martini. 16,432. July 17.
Alpha-Naphthylamine. Chem. Fab. vorm. Weiler-ter-Meer. 16,446 July 17.
Soap, Detergents, etc. A. H. Charlton. 16,448. July 17.
Gelatinised Nitro-Cellulose Explosives. G. H. Wadsworth. 16,492. July 18.
Colouring Matters of the Anthracene Series. Badische Anilin and Soda Fabrik. 16,505. July 18.
Refractory Materials. The British Thomson-Houston Co. 16,530. July 18.
Tilting Casks. H. Humpherson. 16,539. July 19.
Arylthioglycollic-ortho-carboxylic Acid Esters and Substitution Products. R. Lesser. 16,580. July 19.
Dyestuffs. O. Imray. 16,584. July 19.
Digesters. R. R. Gubbins. 16,596. July 19.
Pulverisers. W. H. Hess. 16,602. July 19
Isobornyl Esters. C. Weizmann and the Clayton Aniline Co. 16,605. July 19
Edge-runner Grinding or Mixing Mills. G. S. Baker. 16,611. July 19.
Heat Exchange Apparatus. F. E. Bennett. 16,624. July 20.
Magnetic Ore Separator. G. W. Lundberg and A. G. Holmberg. 16,675. July 20.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Sulphonic Acid Compounds. Pantin and Tolputt. 16,086.
Treatment of Refractory Zinc-Lead Ore. Isherwood. 16,364.
Ammoniacal Copper Solutions. Lecoeur. 16,442.
Gas Generating Apparatus. Rosenburg. 16,901.
Grading China Clay. Batt and Bowden. 18,294.
Compressing and Cooling Gases. H. J. West & Co., Webster, and Chew. 18,351.
Explosive Nitro-Substances. Bichel. 19,215.
Ore Concentration. Sulman. 19,944.
Soluble Starch and Dextrine. Fielding. 20,488.
Electrical-resistance Thermometer. Johnson. 23,781.
Para-Nitrodiphenylamine. Bloxam. 24,091.
Explosives. Claessen. 24,240.
Filtration of Water. Candy Filter Co., and Candy. 27,700.

1907.

Saltpetre Manufacture. Froschmaier. 3,409.
Colours. Farbwerke vorm. Meister, Lucius and Brüning. 6,722.
Drying Stove or Kiln. Ostertag. 7,784.
Oils and Soaps for Turkey-red Dyeing. Schmitz. 8,245
Dyestuffs. Schmitz. 11,903.
Acetone. Pagès, Camus, and Duchemin. 13,508.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements Relating to Continuous Electrolysis. G. B. Rambaldini, Milan, Italy. British Patent, 8,039, 1906. (Date claimed under International Convention, April 3, 1905.)

The inventor claims :—(1.) An electrolytic process dispensing with the use of porous walls and applicable to liquids, the decomposition of which gives rise to products one of which is soluble, the other solid or gaseous, said process being characterised by the fact that the electrolyte is regenerated by adding in a liquid form such amount of electrolyte as corresponds to the transport of the solid or gaseous ion freed, and to the solvent decomposed by secondary action, an equivalent quantity of liquid being allowed to flow out, and a quantity of electrolyte in anhydrous form being introduced at the electrode at which the solid or gaseous product is developed, as corresponds to the transport of the ion passing into the produced liquid. (2.) An electrolytic process as in Claim 1 characterised by the fact that in order to supply the said anhydrous salt, as well as the liquid electrolyte, the liquid in contact with the electrodes of the solid or gaseous product is caused to enter and leave the bath in a horizontal direction, the same liquid being caused continuously to circulate in series with an external reservoir to which the quantity of anhydrous salt and electrolytic liquid necessary to keep constant both the volume and the density, is being supplied, all the useful products generated at both of the electrodes being collected at the same time.

Improvements in or Relating to Ore Concentration and Apparatus Therefor. H. L. Sulman, 44 London Wall, London, and E. A. Sulman, South Grove, Highgate, London. British Patent, 9,981. April 28, 1906.

This invention relates to improvements in ore concentration and apparatus therefor, the object being to provide suitable means for separating metalliferous particles from gangue or from one another. The invention is an improvement upon that described in British Patent No. 5,620 of 1905.

The inventor observes that hitherto it has been proposed to separate mineral particles which are immersed in liquid by causing the particles to be exposed to the air and thereafter to meet the edge or surface of the liquid, whereby certain particles float and are separated from the remainder. In the methods previously proposed, powdered ore was carried on some form of moving surface such as a vanning apparatus or conveyor. According to this invention the powdered ore or mixed particles are fed over a surface over which a thin layer of liquid passes, and relatively movable members, such as squeegees, sweep over the surface, and cause the ore to be alternately exposed to the air and to the edge of the liquid. Preferably the powdered ore or mixed particles are fed over a fixed surface over which a thin layer of liquid passes, and the particles are mechanically caused to be alternately exposed to the air and to the edge of the layer of liquid, whereby certain particles float in the liquid and are separated from the remainder.

One apparatus for carrying out the invention comprises a fixed and preferably inclined surface, over which powdered ore and a thin layer of liquid are fed, and means for alternately exposing the ore to the air and to the edge of the liquid. Such means may consist of one or more movable members which sweep over the surface and temporarily remove the liquid from the ore particles. These movable members conveniently have a flexible edge in contact with the surface. The inclination of the surface should be such that the powdered ore will not flow off it of its own accord with the liquid when the mechanism is at rest, and the layer of liquid should be so thin that when the movable body or flexible edge passes over the ore it will remove the film of liquid and leave the ore particles exposed to the air for an appreciable time. The inclination is to be adjustable to meet the requirements of varying ores.

Improvements in Apparatus for Mixing, Attemperating, Condensing, or Effecting Reactions between Liquids and/or Gases. O. Guttmann, 12, Mark Lane, London. British Patent, 4,407. February 22, 1907.

The improved bodies or units, which are made of suitable material and of suitable size, are channel-like structures Λ- or ∩-shaped in cross section, and are provided with shoulders on their outer surface whereon another row of channels when superposed thereon rests. Perforations or slots near the shoulders are formed through the walls of the channels for the passage of the gases or liquids, so that when two or more units are superposed the one upon the other and so on, the whole forms a honeycombed or cellular structure, having intercommunicating reaction spaces formed between the successive layers or superposed units. Instead of making the channels single of a Λ- or ∩-shape with shoulders, they can be made of a W-shape or double channel, and any of the channels can also be used in a reversed position; instead of being made continuous channels from one end to the other, they can be divided in the length into compartments by inserting division walls at suitable intervals apart, and the inner and outer surfaces can be fluted or corrugated so as to increase the area of the contact surfaces.

SANTA CATALINA NITRATE CO.—The directors have declared a first quarterly dividend of 5% on account of the profits for the current year.

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Stock and Share List.

WEEK ENDING JULY 31, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO Thursday, July 25.	Friday, July 26.	Saturday, July 27.	Monday, July 29.	Tuesday, July 30.	Wednesday, July 31.
120,000	1	1	Bell's Asbestos ... ... ord.	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞	1¾ 1⅞
	Stock	100	Borax Consolidated 4½% deb. stock red.	109 111	110 112	110¼	110¼	110 112	110 112
80,000	10	10	Do. ... ... pref.	11⅜	11⅛ 11⅜	11¼	11⅛ 11⅜	11⅛ 11⅜	11⅛
1,356,477	1	1	Bradford Dyers ... ... ord.	24/-	24/-	24/-	24/-	23/10½	23/10½
1,500,000	1	1	Do. ... ... 5 % c.p.	21/-	21/-	20/10½	20/9 21/-	20/9 21/-	20/10½
35,000	10	10	British Dyewood ... ... ,,	4 4⅛	4 4¼	4 4¼	4 4¼	4 4¼	4 4¼
600,000	1	1	British Oil and Cake Mills ... ord.	12/6 13/-	12/6 13/-	12,6 13/-	12/6 13/-	12/6 13/-	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ... ,,	42/-	42/-	42/-	42/-	42/-	43/6
10,000	10	10	Do. ... ... 6 % c.p.	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
1,472,154	1	1	Brunner, Mond, and Co. ... ... ord.	5⅝ 5⅜	5⅝ 5⅜	5⅜	5¼ 5⅜	5¼ 5⅜	5¼ 5⅜
32 678	10	10	Do. ... ... 7 % pref.	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜	17⅛ 17⅜	17⅜	17⅛ 17⅜
96,000	5	5	Bryant and May ... ... c.p.	12½ 13	12½ 13	12½ 13	12½ 13	12⅛	12½ 13
40.000	10	10	Buxton Lime Firms ... ... ord.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ... ,,	19/3	20/-	19/6	19/6	19/6	20/3
450,000	1	1	Castner-Kellner ... ... ,,	24/- 25/-	24/6 25/	24/9	25/-	24/6 25/-	24/6 25/-
16,000	5	5	Clayton Aniline ... ... ,,	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
12,000	5	5	Do. ... ... 6 % c.p.	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
6,000	10	5	Cleveland Salt ... ... 6 % m.p.	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3
20,000	10	10	Crosfield, J., and Sons ... ... c.p.	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜	10⅛ 10⅜
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27 6 28 6	27/6 28.6	27,6 28/6	27,6 28/6	27/6 28,6	27/6 28,6
5,000	10	10	Do. ... ... 6 % c.p.	12⅝ 12⅝	12⅝ 12⅝	12⅝ 12⅝	12⅝ 12⅝	12⅝ 12⅝	12⅝ 12⅝
£15,223,235	Stock	100	Gas Light and Coke Co. ... ... ord.	96⅜	96⅛	96⅛	95¾	95⅞	94 96
	10	10	India Rubber Co. ... ... ,,	15 16	15 16	15½	15 16	15 16	15 16
	5	5	Lagunas Nitrate ... ... ,,	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	8	8	8	8	8	8
	5	5	Lautaro Nitrate ... ... ,,	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼	10¾ 11¼
200,000	10	10	Lever Bros. ... ... 5 % c.p.	10⅞ 11	10⅞ 11	10⅞ 11	10⅞ 11	10⅞ 11	10⅞ 11
400,000	10	10	Manchester Ship Canal ... ... ord.	23/- 23/6	23/-	23/- 23/6	23/-	23/3	23/- 23/3
400,000	10	10	Do. ... per 5 % pref.	32,6	32/6 32/9	32/6 32/9	32 9	32/3 32/9	32/3
120,000	1	1	Mandleberg ... ... ord.	31/-	30/6 31/-	30/6 31/-	30/6 31/6	30/6 31/6	30/6 31/6
185,145	1	1	Mason and Barry ... ... ,,	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	58/9	2⅞ 3⅛	2⅞ 3⅛
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	1/6	1/6	1/6	1/6	1/6	1/6
110,007	10	10	Nitrate Railways ... ... ,,	12½ 13	12¼ 12¾	12¼ 12¾	12¼ 12¾	12¼ 12¾	12¼ 12¾
228,540	10	10	Nobel Dynamite Trust ... ... ,,	15½	15⅝	15⅝	15½	15½	15½
	10	10	Do. share warrants	15⅞	15⅝	15½	15½	15⅝	15½
200,000	1	17/-	Oakbank Oil, Ltd. ... ... ord.	37/9	37/9	37/9	37/9	37/-	37/6
	1		Pears, A. and F. ... ... ,,	1⅜ 1½	30/-	1⅜ 1½	1⅜ 1½	1⅜ 1½	1⅜ 1½
70,000	10	10	Pease and Partners ... ... ,,	13 13¼	12⅝	12⅞ 13⅛	12⅞ 13⅛	12⅞ 13⅛	13¼
37,500	16	16	Price's Patent Candle ... ... ,,	33	33	33	33	32½	33
130,000	1	17/-	Pumpherston Oil, Ltd. ... ... ,,	9⅞	10⅛	10¼	10⅝	11⅛	11¼
10,000	10	10	Do. ... ... 6 % c.p.	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
325,000	5	5	Rio Tinto ... ... ord.	81⅜	82	81	81⅛	81	79
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	5	5	5	5	5	5
239,479	1	14/2	Sadler and Co. ... ... ,,	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
200,000	4	4	Salt Union ... ... ,,	19/-	18/10½	18/9 19/-	19/-	18/7½	18/7½
100,000	6	6	Do. ... ... 7 % n.c.p.	4⅜ 4½	4⅞	4⅛ 4⅞	4⅛ 4⅞	4⅛ 4⅞	88/-
£148,000	1	1	Sanitas Co., Ltd. ... ... ord.	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛
	4	4	San Jorge Nitrate ... ... ,,	1¼ 1½	1¼ 1½	1⅛ 1⅜	24/4½	1⅛ 1⅜	1 1¼
	1	1	Schibaieff Petroleum ... ... ,,	⅛ ⅛	⅛ ⅛	⅛ ⅛	⅛ ⅛	⅛ ⅛	⅛ ⅛
£6,250,000	Stock	100	South Metropolitan Gas	120 122	120 122	120 122	105 110	120 122	120 122
45,000	10	10	Steiner, F., and Co. ... ... 5 % c.p.	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	8¾ 8⅞	9	9
625,000	2	2	Tharsis Sulphur and Copper ... ,,	6⅞ 7⅛	6⅞ 7⅛	6¾ 7	6⅝ 6⅞	6⅝ 6⅞	6⅝ 6¾
289,343	10	10	United Alkali ... ... ord.	81/6	81/- 81/6	81/-	80/- 81/-	80/9	81/-
282.524	10	10	Do. ... ... 7 % pref.	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12
80,000	1	1	United Indigo and Chemical ... ord.	3/3 3/9	3/3 3/9	3/3	2/9 3/3	2/9 3/3	2/9 3/3
66,667	5	5	Willans and Robinson ... ... ,,	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅝
210,000	1	1	Woolcombers ... ... 7 % c.p.	21/6 22/6	21,6 22/6	21/6 22/6	21/6 22/6	21/6 22/6	21/6 22/6
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.	1/- 2/-	1/- 2/-	1/- 2/-	1/- 2/-	1/- 2/-	1/- 2/-
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,	71/9	71/9	71/3	71/-	71/9	72/-

Molybdenite, Ltd.—Capital £5,000., in £1. shares. This company has been formed to acquire, deal with, and turn to account options, lands, buildings, mines, mining rights and leases, concessions, licenses, patents, etc. No initial public issue. Table A mainly applies. Registered by Harston and Bennett, 4, Bishopsgate Within, E.C.

Improved Smokeless Coal Co., Ltd.—Capital £5,100., in £1. shares. This company has been formed to carry on the business of colliery proprietors, coal merchants, coke manufacturers, smelters, etc. No initial public issue. The first directors are to be appointed by the subscribers. Qualification, £50. Registered office, 18, Fleet-street, E.C.

United Alkali Co., Ltd.—The directors have declared an interim dividend at the rate of 7% per annum on the preference shares, but have decided to defer the recommendation of a dividend on the ordinary shares until the end of the financial year.

Wills.—The will of the late Alderman James Liebig Muspratt, of Cornish, Flint, formerly of the firm of Muspratt Brothers, chemical manufacturers, Flint, J.P. for Flintshire (sheriff 1897) chairman of the Flintshire Education Committee, Alderman and ex-chairman of the Flintshire County Council, four times Mayor of Flint, and eldest son of Mr. Richard Muspratt, of Trelawny House, Flintshire, has been proved at £25,711.

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NEW YORK PRICES CURRENT.

July 16, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 33
,, Oxalic	per lb.	0 8¼
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7¾
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

ARTIFICIAL MANURE IN EGYPT.

SOME information regarding the growing importance of Egypt as a market for artificial manures is given in a recent French Consular report. Since the construction of the Assouan Dam, Egypt's most effective fertiliser, the mud of the River Nile, is becoming less sufficient for the needs of cultivation, as a large part of the mud is left far south of the Nile delta. Further, the area under cultivation has been considerably increased in extent, and through the help of irrigation works, consequently, the supply of cattle manure is quite inadequate to cover the whole ground. On cotton fields, good results have been obtained with 100 to 150 kilogs. of superphosphate per feddan (1.04 acre), often with 50 kilogs. nitrate of soda or sulphate of ammonia. On grain fields, 100 kilogs. nitrate with 40-50 superphosphate is the customary allowance per feddan. The following quotations for the most important fertilisers can only be considered approximate, as frequent variations take place. They amount per ton, free on waggon Alexandria, as follows: sulphate of ammonia, £13. 10s.; nitrate of soda, £12. 10s.; superphosphate, £3. 2s. The "Société Khédiviale d' Agriculture" sells to the farmers appropriate mixtures at the following rates per feddan: for cotton, £3. 9s. 6d.; maize, £1. 11s.; wheat, £1. 3s.

Price's Patent Candle Company.—Without making any deduction for depreciation the accounts for the half-year ended June 30 show a profit of about £29,800., to which has to be added £8,510. brought forward from last year. The directors recommend a dividend of 15s. per share, which will absorb £28,125., and leave about £10,200. to be carried forward.

Trade Notes.

The Radoch Chemical Co., of Sossnowies, made a profit of £8,280. in 1906, against a loss of £1,901. in the preceding year. The dividend will be 6%.

Woolcombers Limited.—The directors have decided to declare an interim dividend on the preference shares for the half-year ended June 30, at the rate of 7% per annum. Dividend warrants will be posted on August 19.

Fertilisers in Northern Spain.—A French Consular report calls attention to the demand for artificial fertilisers in the northern Spanish provinces of Galicia and Asturias. Generally speaking, the ground in Galicia is poor in phosphates; in consequence of this, other artificial manure containing the latter is much in request. As the land is also deficient in lime, the Thomas phosphates have given excellent results. The favourable action of almost any artificial fertiliser in Galicia and Asturias is increased by the frequent rain bursts, which hasten the solubility of these articles.

River Plate Vanadium Syndicate, Ltd.—Capital £20,000., in £1. shares. This syndicate has been formed to acquire the mines or mining concessions of vanadium ore and other minerals known as Venus and Bienvenida, near Soto, Province of Cordoba, Argentine, to adopt an agreement with J. E. Bonnemaison, and to carry on the business of miners, explorers, prospectors, metallurgists, dealers in ores, metals, and minerals, etc. No initial public issue. The first directors are A. E. Kempf, G. Kempf, W. R. Bowen, and J. E. Bonnemaison. Qualification, £100. Remuneration, £50. each per annum (chairman £100.) and 2½% of the distributed profits after 10% dividend has been paid, divided (maximum in any year, £3,000.). Registered office, 5, Fenchurch-street, E.C.

White Lead.—The *Manchester Guardian* says:—"The scarcity of white lead consequent upon a very unusual demand this year is beginning to cause some uneasiness. Prices have been comparatively high for a long time, but it seems likely that the trade has not yet witnessed the end of the upward movement. A position such as the present is extremely inconvenient to consumers, because while many things can be safely bought "from hand to mouth" white lead is not one of them. New carbonate of lead does not work well, and no painter who has a reputation to sustain cares to use it. On the other hand, to stock white lead with a view of using it a year hence, after it has matured, is disagreeable when the price reaches £27. or £28. per ton. The margin for a fall is tremendous, seeing that £14. or £15. per ton was a common figure a few years ago. The position of the makers is now very strong, and they are refusing orders on all hands; but at the same time the profits of the industry are by no means satisfactory, for, notwithstanding the scarcity, the price has not risen yet in proportion to the rise in the pig lead."

Market Reports.

THE AMERICAN CHEMICAL MARKET.

(Rate of Exchange, $4.85½ = £1.)

NEW YORK, July 16, 1907.

Nitrate of soda is steady at $2.45 to $2.50. per 100 lbs. as to position. Sulphate of ammonia is unchanged at $3.05. to $3.10. per 100 lbs. Grey muriate is in usual demand at 6c. to 6¼c. per lb. Lump sal ammoniac, good white seconds, 9¼c. per lb. Lump carbonate ammonia is without new feature at 7⅞c. to 8c. per lb. with powdered 1c. per lb. more. Bleaching powders are slow of sale at $1.30 to $1.35. Alkali is 92½c. per 100 lbs., for light 58%, in bags, f.o.r. makers' works. Caustic soda, 74%, is quoted at $2.05. per 100 lbs., same conditions. Sulphate of copper has been reduced by the Syndicate to 7c. per lb., in round lots. White powdered arsenic is lower for immediate delivery, at 7c. per lb., and it is now offered at the same price for the future. Red Saxony arsenic is firm at 7¼c. per lb. Calcined carbonate potash, 80-85%, is 7¾c. to 8c. per lb., and hydrated is steady at 7⅞c. per lb. Caustic potash, 75%, is steady at 4¼c.. per lb. Prussiate of soda is 9½c. to 10c. per lb., and potash 15¾c. to 16c. Bichromate of soda is 7⅛c., and potash 8¼c. per lb., the Syndicate prices. Phosphate of soda is dull at $1.85. per 100 lbs. Oxalic acid is well maintained at 8¼c. to 9c. per lb.

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TAR AND AMMONIA PRODUCTS.

Friday.

Benzols quiet, with values given at 8¼d. to 8½d. for 90's, and 9d. for 50-90's. Crude tar, 15s. 6d. to 21s. per ton, Thames; 1⅛d. to 1⅜d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d.; pitch (London) 26s. to 26s. 6d., f.o.b.; Gas Company, 29s. to 30s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. to 24s. 6d.; next year, 2s. more. Naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 11½d.; pure, 1s. 6d. to 1s. 7d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5⅝d.; 60%, 1s. 7½d. to 1s. 8d.; 75%, 1s. 11¾d. to 2s. Crystals, 39-40, 5⅜d.; 34-35, 5⅜d. Cresylic, 95%, 1s. 1½d. to 1s. 2d. Anthracene, 40 to 45 per cent. A, 1¼d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, £12. 2s. 6d.; Beckton terms, £11. 13s. 9d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s. to £11. 16s. 3d.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s., and refined, 11s. 3d. Official quotations:—Cargoes, off coast or due, 11s. 3d.; ditto, for prompt shipment, 11s. 6½d.

FERTILISER MATERIALS.

Friday.

The market for all descriptions of manure material remains quiet, though prices are well maintained.

Nitrate of soda is a shade dearer on spot, closing quotations being 11s. 1½d. per cwt. for 95%, and 11s. 4½d. per cwt. for refined quality.

Shippers of East Indian bone meal, 42 and 52% quality, are still firm, at £5. 2s. 6d. per ton, net, c.i.f. Liverpool. On spot, £5. 7s. 6d. to £5. 12s. 6d. per ton, ex store, is required, according to quality.

Mineral phosphates of all grades remain unchanged.

THE LONDON METAL MARKETS.

Thursday.

Copper: Standard brands, £86. 15s. to £87. 5s. cash, and £83. to £83. 5s. three months. Tin: G.M. quality, £182. 10s. to £183. cash, and £181. 5s. to £181. 15s. three months. English, £184. Lead: soft foreign, £19. 15s. on spot, and August delivery, £19. 15s.; September, £19. 10s.; English, £20. 5s. to £20. 10s. Spelter: ordinary brands, £23. 2s. 6d., ex ship; hard, £19. 5s. to £19 10s., f.o.b. Antimony, £43. to £47.; ore, £10. to £10. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 16s. Nickel: £175. to £185. Pig-iron: closing prices, standard, 56s. 6d. cash, and 56s. 7½d. one month; Cleveland, 57s. 5d. cash, and 57s. 1½d. one month.

MISCELLANEOUS CHEMICAL MARKET.

Friday.

There is a continued steady demand for chemicals generally, and with the high prices ruling for all raw materials there is no tendency to any reduction of prices in manufactured products. In the alkali trade demand continues good for alkali, 58%, quotation being firm at £4 10s., bags, f.o.r.; and for soda crystals, in bags, 60s. per ton, f.o.r. Caustic soda also stands very firm, at £9. 15s., f.o.b. Liverpool. Saltcake is in good request, both for prompt and forward delivery, at 40s. per ton, in bulk, f.o.r. Potash, caustic and carbonate, are still in strong demand, and supplies are not abundant. Caustic potash, 88/90%, is firm, at £26. per ton. Sulphur is steady, at £4. 17s. 6d., and there is good general demand for sulphuric and muriatic acids. Sulphate of copper is rather easier, at £30. 5s., f.o.b. Arsenic firm and in good request, at £32. Acetate of lime, grey, 80%, is still at £12 10s., and there is continued good demand for acetic acid and other acids. Bichromates are unchanged. Prussiates also are steady, at 3¾d. and 6d. per lb. For ammonia and ammonia salts the demand is well sustained, and prices are firm.

LIVERPOOL DRYSALTERIES.

Thursday

Montreal potashes quiet. Pearl ash quotations nominal. Bark steady, with only small supplies of Baltimore. Berries unchanged. Logwood and fustic steady. Cutch very quiet. Gum arabic steady. Castor oil quiet, at 3½d. for good seconds Calcutta; 3⅝d. to 3¾d. for first pressure French; and 3½d. for econd pressure French; Calcutta well held at 3¾d. per lb. for July-August shipment. Gambier quiet at 18s per cwt.; cubes 28s. to 28s. 6d. on spot; 27s. 6d. for July-August shipment, and 27s. 9d. for August-September shipment. Shellac quiet, with sales of T.N. orange on spot at 206s. to 207s. American powdered starch 10s. on spot, and 9s. 6d. c.i.f. for shipment. Pearl: on spot, 9s. 4½d. and 9s. c.i.f. for shipment. Cream of tartar, 98%, foreign powder, 81s.; 95%, 79s. Tartaric acid, English, on spot, 11¼d.; foreign, 11d. Citric acid, English, 1s. 11½d.; foreign, 1s. 11¼d.

LIVERPOOL OIL AND COLOUR MARKET.

Thursday.

OILS.—Palm oil steady, sales including Grand Bassa and Dix Cove on spot at £28. 2s. 6d; Olive oil firm. Linseed oil quiet, at 25s. 9d. to 26s. 6d. for Liverpool makes in export casks. Cottonseed oil steady at 31s. 6d. to 32s. per cwt. for Liverpool refined, in export barrels. Rosin, on spot, 11s. 10½d. for common. Tallow quiet at 35s. per cwt., c.i.f, South American mutton. Turpentine quiet at 42s. 6d. per cwt. Petroleum: Russian and Roumanian, 6¼d.; and American refined at 6⅞d. to 7⅛d. per gallon. Petroleum spirit steady at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

TYNE CHEMICAL REPORT.

Thursday.

Chemicals steady and in fair demand. Caustic soda, 76-77%, £10. 10s.; and 70%, £9. 15s. per ton. Bleaching powder in better request at £5. to £5. 5s. per ton. Soda crystals, locally firm, £2. 17s. 6d. to £3. 2s. 6d. per ton gross weights. Sulphur firm at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett, do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market very firm with a full demand, and all qualities of coal in strong request. To-day's prices:—Best Northumbrian steam, 15s. 9d. to 16s. per ton; second qualities, 14s. 6d. to 15s. 3d. per ton; small steam coals, 10s. to 10s. 6d. per ton; best gas coals, 12s. 6d. to 15s. per ton; Durham bunker coals, 12s. 9d. to 13s. 6d. per ton; coking coals, 13s. 6d. per ton; household coals, 15s to 17s. per ton; foundry coke, 24s. to 25. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Thursday.

The market in the section of the Scotch makes of paraffins (solid and liquid) and mineral oils continues very steady, with a fair and regular turn-over at prices as for some time ruling. Within the next week or two the managing representatives of the various companies will meet in Glasgow to come to some understanding (the usual annual custom) with regard to the contract prices of burning oil for the approaching new season, 1907-1908. The article is firm, and an advance on present spot price figures is not unlikely. The general chemicals market shows little of change, the heavy lines with values as before, but the demand a little brisker. Sulphate of ammonia remains as

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before, £12. to £12. 1s. 3d. for spot f.o.b. Leith, and with only a moderate inquiry. Sulphate of copper is again fractionally easier.

Chief prices current are :—Alum (in lump) £5. 5s. to £6. nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d. ; and 1-cwt. casks, £6. 15s. nett, Liverpool ; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b., Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b., Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne ; borax, English refined, £16. ; and boracic acid, £25., nett, Glasgow ; caustic soda, white, 76°, £10. 10s. ; 70-72°, £9. 15s. ; 60-62°, £8. 15s. ; and cream, 60-62°, £8. 15s., all nett, Liverpool ; chlorate of potash, 3½d., nett, Glasgow ; creosote (ordinary coal-tar and blast-furnace) 2¼d., naked, f.a.s., Glasgow ; nitrate of soda, 11s. 3d. ; paraffin scale, hard, 2d. to 2¼d. ; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d. ; paraffin spirit (naphtha), 10d. to 11d. per gallon ; paraffin oil (burning), special quality, 6½d. ; ordinary sorts, 6d. and 5¾d., open market prices for spot business at Glasgow and other big centres ; ditto (lubricating) 865°, £5. 12s. 6d. to £5. 17s. 6d. ; 885°, £6. 7s. 6d. to £7. 7s. 6d. ; and 890-895°, £7. 2s. 6d. to £8. 2s. 6d. ; prussiate of potash, 6d., nett, f.a.s. Glasgow ; salammoniac, first and second white, £42. and £40., less 2½% any port ; saltcake, 40s. to £42s. 6d. ; soda ash, £5. 10s. to £5. 15s. nett Tyne ; soda crystals, £3. to £3. 2s. 6d. ; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith ; sulphate of copper, £30. 10s., less 5% Liverpool, prompt.

New Companies.

Aristodes Dustless Roads Syndicate, Ltd.—Capital £2,000., in £1. shares. This syndicate has been formed to adopt an agreement with J. W. Metcalf, to acquire the patents granted to him for an invention for a new method of tarring roads and apparatus and machinery therefor, together with any subsequent inventions therein, and to develop and turn to account the same. No initial public issue. The first directors are J. W. Metcalf, A. Stedall, W. C. Manning and A. S. Manning. Registered office, Rutland Chambers, Newmarket.

Cumberland Mines, Ltd.—Capital £40,000., in £1. shares. This company has been formed to adopt an agreement with T. C. Dennison, J. F. Lobb and F. Meakin, to acquire any mines, mining rights or metalliferous land in the United Kingdom or elsewhere, and to carry on the business of miners, prospectors, explorers, dealers in metals and mineral substances, etc. No initial public issue. The first directors are T. C. Dennison, J. F. Lobb, R. C. Skeet and F. Meakin ; qualification (except first directors) £500. Registered office, 6, Martin's-lane, Cannon-street, E.C.

J. H. Riddle, Ltd.—Capital £6,000., in £10. shares. This company has been formed to take over the business of soap manufacturers carried on by J. H. Riddle and J. Unsworth, at Newton Soap Works, Manchester, as J. H. Riddle. No initial public issue. The managing directors are J. H. Riddle and J. Unsworth (both permanent) ; qualification £250. ; remuneration of managing directors £250. each per annum. Registered office, Newton Soap Works, Holland-street, Manchester.

Monazite, Ltd.—Capital £7,500., in £1. shares. This company has been formed to carry on the business of company promoters, financiers, etc. No initial public issue. The subscribers are to appoint the first directors ; qualification £10. Registered by H. A. Phillips, 16, South-street, Finsbury, E.C.

National Explosives Co. (1907) Ltd.—Capital £500., in 10s. shares. This company has been formed to adopt an agreement with the National Explosives Co., Ltd., and to carry on the business of manufacturers of and dealers in explosives of all kinds, etc. Minimum cash subscription 7 shares. Table A mainly applies. The directors may increase the capital to not more than £133,500. in 134,000 preference shares and 133,000 ordinary shares of 10s. each, and may borrow up to £200,000., of which £150,000. may be by the issue of debenture or debenture stock. Registered by Paines, Blyth and Huxtable, 14, St. Helen's place, E.C.

United Serdang (Sumatra) Rubber Plantations, Ltd.—Capital £170,000., in £1. shares. This company has been formed to acquire estates on the East Coast of Sumatra and elsewhere, to adopt agreements (1) with the partners in the firm of Harrison and Crossfield for the sale and purchase of the Bergerpang Estate, Serdang, (2) with Paul L. J. Francis Count de Guigne, C. J. de Guigne and G. C. A. de Guigne, and (3) with H. W. Brett, and to carry on the business of growers of rubber, cocoa-nuts and other produce, etc. The first directors (not less than 4 nor more than 8) are A. Lampard, C. E. Morrison, F. E. Savill, H. W. Brett, K. F. Arbuthnot and A. M. E. de Guigne ; qualification £500. ; remuneration £100. per annum. Registered by Warren, Murton and Miller, 45, Bloomsbury-square, W.C.

Sungei Jong Rubber Co. Ltd.—Capital £7,000., in £10. shares. This company has been formed to acquire certain lands and properties at Sungei Jong, near Chenderiang, State of Perak, and to carry on the business of growers and manufacturers of and dealers in indiarubber and other produce, etc. No initial public issue. M. Duncan is the first director. Registered by T. T. Hull and Son, 22, Chancery-lane, W.C.

National Match Factory of Bolivia, Ltd.—Capital £80,000., in £1. shares (30,000 preference). This company has been formed to carry on the business of match manufacturers, importers, exporters, and salesmen, timber growers and merchants, sawmill proprietors, etc., in Bolivia or elsewhere. No initial public issue. The first directors are to be appointed by the subscribers ; qualification 2 shares ; remuneration (except managing director) £150. each per annum and 10% of any distributed profits remaining after paying 10% on the ordinary shares. Registered by Francis Vowles and Welch, 84, Bishopsgate-street Within, E.C.

Oued-Mongras Copper and Iron Co., Ltd.—Capital £30,000., in £1. shares. This company has been formed to carry out an agreement between James A. French, liquidator of the Oued-Mougras Copper and Iron Co., Ltd. (in liquidation), John A. Nicol, Coatbridge, and Charles S. Mair, merchant, Tigh-na-Mara, Algeria ; to prospect and explore the property referred to therein in the province of Constantine, Algeria, and to carry on in Africa or elsewhere the business of copper, iron and general miners, prospectors, explorers, etc. The first directors are C. S. Mair, T. Hunter, T. Stewart, D. B. Allan, and J. Alston ; qualification 500 shares ; remuneration £50. each per annum. Registered office, 135, Wellington-street, Glasgow.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr. lb.	Quarters. Pounds.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.				
Brls.	Barrels	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.	Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.	
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

LONDON.

Week ending July 20.

Acetic Acid—
Norway, 76 pks. Weber, Smith & Hoare

Acetic Acid—
Holland, 28 cks. 18 brls. Little
,, 150 cbys. & Johnston
,, 19 pks. R. W. Green & Co.
,, 2 W. H. Muller & Co.

Acetic Acid—
Holland, 79 pks. R. W. Greeff & Co.
,, 38 cks.

Acetone—
Germany, 8 cks. F. A. Tye
Belgium, 178 A. H. Wintersjin

Alum—
Belgium, 6 cks. J. Cockerill Line

Aluminium—
Germany, 2 c. L. & I. D. Jt. Co.
,, 1 R. W. Coan

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Aluminium Sulphate—
Holland, 11 t. 5 c. Little & Johnston
,, 490 Ohlenschlager Bros.

Amyl Acetate—
Germany, £70 T. H. Lee

Antimony (Crude)—
Germany, 50 t. A. Carter

Antimony Ore—
Victoria, 16 t. G. Smith & Sons
China, 112 Shanghai Tdg. Co.
,, 11 Carter Paterson & Co.
N.S.W., 21 H. Grey, jun.
,, 25 Morton & Co.

Argols—
Spain, 38 cks. Thames S. T. & L. Co.

Asbestos—
Canada, 12 t. 15 c. J. D. Hewett & Co.
France, 40 Lunham & Moore
Belgium, 64 15 Deering & Robottom

Barytes—
Holland, 19 cks. Petri Bros.
,, 10 F. T. H. Nye
,, 21 W. Harrison & Co.
,, 7 W. H. Muller & Co.
,, 6 Windschuegl & Co.
Germany, 6 London, Rhine S. Office & Co.
,, 20 Steinhoff, Sons & Co.
Belgium, 30 J. Harrison
,, 100 bgs. W. Harrison
,, 52 brls. ,,
,, 128 pks. Felton & Crepin
,, 186 J. D. Budd
,, 19 cks. 50 bgs. Taylor Bros.

Bismuth—
Germany, 3 t. Argo S.S. Co.

Bleaching Powder—
France, £244 Hunter, Lorner & Co.
,, 286 J. B. West & Co.
,, 301 t. ,,
U.S.A., 2,633 Hunter & Lorner
Holland, 12 W. H. Muller & Co.

Bog Ore—
Holland, 200 t. W. Hawkins & Co.

Boracic Acid—
France, 103 cks. Burton,
,, 10 cs. Baker & Co.

Borax—
France, 34 t. 5 c. Burton, Baker & Co.

Calcium Carbide—
Norway, 53 t. A. C. Giton

Calcium Chloride—
Germany, £26 Ldn. & Rhine S. Office

Camphor—
Germany, 70 cs. L. & I. D. Jt. Co.
China, 17 R. Warner & Co.
H. Hong, 75 S. Figgis & Co.
,, 25 L. & I. D. Jt. Co.
China, 10 H. Kiver & Co.

Caoutchouc—
France, 5 t. S. Figgis & Co.
,, 5 c. France, Fenwick & Co.
,, 23 Props. Bull Wf.
,, 11 W. H. Smith & Sons
,, 11 4 L. & I. D. J. Co.
,, £15 Butler's Wf., Ld.
Ceylon, 5 5 Props. Bull Wf.
,, 3 Hoare, Wilson & Co.
,, 2 Lewis & Peat
,, 2 3 L. & I. D. Jt. Co.
,, 11 W. P. Evans & Co.
,, 14 Rowe, White & Co.

Caoutchouc—
Aden, 10 c. Clarke & Smith
Germany, 1 t. 4 Props. Bull Wf.
,, 6 France, Fenwick & Co.
Straits, 5 Prop. Hay's Wf.
,, 11 7 Props. Bull Wf.
,, 6 Penang Sugar Co.
,, 25 9 Boustead & Co.
,, 4 15 L. & I. D. Jt. Co.
,, 15 Butler's Wf., Ld.
,, 1 10 M. P. Evans & Co.
,, 2 7 Strand, Halden & Co.
,, 7 9 Lewis & Peat
,, 2 Prop. Hay's Wf.
,, 15 Rowe, White & Co.
,, 3 16 S. Figgis & Co.
,, 2 4 Props. Bull Wf., Ld.
,, 9 J. Swire & Sons
U.S.A., 12 Props. Bull Wf.
,, 2 Humphrey & Co.
,, 5 Sperling & Williams
,, 5 Van Oppen & Co.
,, 16 L. & I. D. Jt. Co.
Victoria, 5 16 W. C. Bacon & Co.
N.S.W., 13 ,,
E. Indies, 1 11 W. H. Smith & Sons

Carbon Black—
U.S.A., 50 cs.

Carbonic Acid Gas—
Holland, £200 W. H. Muller & Co.

Castor Oil—
France, 20 cs. C. J. Hewlett & Son
Italy, 6 Wright, Kerr & Co.

Caustic Potash—
Sweden, 16 nms. N. & R. Collyer

Caustic Soda—
France, 28 dms. J. Barber & Co.
Germany, 22 J. M. Steel & Co.
France, 19 c. Colonial Wys.

Chalk (French)—
France, £8 Hernu, Peron & Co.

Chemicals (*otherwise undes...*)
Germany, £23 N. & R. Collyer
,, 89 T. H. Lee
,, 70 Argo S.S. Co.
,, 16 L. & I. D. Jt. Co.
,, 10 J. Barber & Co.
,, 7 Van Oppen & Co.
,, 74 A. & M. Zimmermann
,, 13 Prop. Hay's Wf.
France, 30 J. Harrison
,, 10 F. Mory & Co.
Holland, 14 W. H. Muller & Co.
,, £200 R. W. Greeff & Co.
,, 72 Barber & Co.
,, 8 Chemical Works, late H. Albert
,, 16 T. H. Lee
,, 9 Van Dam & Co.
Belgium, 5 Wilkins, Campbell & Co.
,, 16 Leach & Co.
,, 33 J. Cockerill Line
France, 56 A. Jones & Co.
U.S.A., 100 W. Smith
,, 15 T. Meadow & Co.
Norway, 18 P. Gardine & Co.
Germany, 24 18 c. P. Hecker & Co

Citric Acid—
Germany, 11 pks L. & I. D. Jt. Co.
France, 12 cks. B. & F. Wf. Co.
Germany, 10 kgs. ,,

Coal Products—
Aniline
Belgium, 9 pks. Friend & Co.
,, 24 J. Cockerill Line
Germany, 19 L. & I. D. Jt. Co.
Carbolic Acid
Holland, 25 cks. J. Owen
Canada, 24 dms. Furness, Withy & Co.
Tar
N. Russia, 600 brls. Linck, Moeller & Co.
Norway, 500 Fellows, Morton & Co.
Tar
N. Russia, 250 brls. Hoare, Marr & Co.
,, 1,700 Linck, Moeller & Co.

Cobalt Ore—
N.S.W., 169 t. 2 q. Cook & Co.

Copper Ore—
N.S.W., 100 t. J. W. Cook & Co.
Queensland, 11 James & Shakespeare
,, 10 c. Thompson, McKay & Co.
,, 102 M. H. & J. E. Matthews
N.S.W., 27 Blackfriars L. & C. Co.
Victoria, 32 Temple, Thomson & Co.
H. Kong, 146 H. Grey, jun.

Cottonseed Oil—
U.S.A., 150 t. J. & M. Leach
,, 100 brls. C. F. Took
,, 100 cs. Prop. Hay's Wf.
,, 100 Colchesters & Woolner

Copper Ashes—
N. Russia, 18 t. J. D. Hewitt

Cream of Tartar—
France, 7 cks. Vokins & Co.

Dextrine—
Holland, 3 t. J. Barber & Co.
,, 18 4 c. Burgoyne & Co.

Dyestuffs—
Cutch
France, 1 cs. B. & F. Wf. Co.
Cutch
Holland, 111 t. 9 c. Baxter, Hoare & Co.
Straits, 100 cs. Borneo & Co.
Gambier
Straits, 179 bgs. Baxter, Hoare & Co.
,, 251 lb. J. Greig
,, 255 Dalton & Young
Logwood
Canada, 50 t. Furness, Withy & Co.
Myrobolans
E. Indies, 640 bgs. W. Balchin
,, 2,939 Hoare, Wilson & Co.
,, 895 J. Greig
,, 320 F. Claydon & Co.
,, 2,939 E. J. Winser
,, 398 pk's. & Co.
Quebracho
Holland, 37 pks. W. H. Muller & Co.
Sumac
Italy, 460 bgs. J. Kitchin
Tanners' Bark
Victoria, 27 t. Baxter, Hoare & Co.
,, 52 Boutcher, Mortimore & Co.
France, 5 cks. Bevington & Son
Canada, 110 brls. Hoare, Wilson & Co.
Tasmania, 1 t. L. & I. D. Jt. Co.
Tannin
Holland, 54 cks. W. H. Muller & Co.
Tannin Extract
Belgium, 50 cks. H. Johnson, Sons & Co.
Natal, 474 t. J. T. Rennie, Son & Co.
Victoria, 100 Fisher, King & Co.

Dyestuffs—
Turmeric
E. Indies, 250 bgs. G. & H. Green
,, 17 Butler's Wf.
,, 34 Butler's Wf., Ld.
Valonia
A. Turkey, 50 t. Trinity Wf.

Explosives—
Gelignite
Germany, £1,250 Alliance Exp. Co.

Farina—
Holland, 10 t. J. Barber & Co.
,, 10 Bennett's Hge. Co.

Formaldehyde—
Holland, £20 R. W. Greeff & Co.

Gallic Acid Extract—
Holland, 1 ck. W. H. Muller & Co.

Gelatine—
Belgium, £102 J. Cockerill Line
Germany, 12 L. & I. D. Jt. Co.
Holland, 16 W. H. Muller & Co.
Holland, 31 Van Dam & Co.

Glanz Gold—
Belgium, 8 t. 10 c. John Cockerill Line

Glucose—
U.S.A., 187 t. 15 c.

Glue—
N. Russia, £65 W. H. Gilbert & Co.
,, 105 O. Murray & Co.
France, 6 Mory & Co.
,, 30 J. Harrison
Germany, 10 Prop. Hay's Wf.
Belgium, 384 T. M. Duche & Son
Holland, 36 W. H. Muller & Co.
,, 8 Van Dam & Co.
Belgium, 63 Leach & Co.
,, 514 T. M. Duche & Son
France, 200 J. Harrison
U.S.A., 20 W. Davies
Germany, 120 Craven & Co.
,, 100 L. & I. D. Jt. Co.
France, 20 Atkins & Nisbet
,, 15 J. Watt & Sons
,, 23 H. Keller & Co.
Denmark, 8 United S. Co.

Glue Stock—
Holland, 14 c. Hernu, Peron & Co.
N.S.W., 3 t. 5 Goad, Rigg & Co.
N.S.W., 3 2 Props. Tower Bdge. Wf.
Queensland, 3 15 Fellows, Morton & Co.
,, 14 7 Anning & Cobb
N.S.W., 18 7 ,,

Glycerine—
Queensl'd, £870 H. Hill & Sons
Holland, 40 J. Barber & Co.
Victoria, 10 H. Hill & Son

Gold Ore—
Queensland, 7 t. M. H. & J. E. Matthews

Gutta Percha—
Straits, 32 t. 2 c. R. & J. Henderson
Germany, 7 6 Weber, Smith & Hoare
H. Kong, Props. Bull Wf.

Lead Ore—
N. Russia, 3 t. Sutton & Co.

Linseed Oil—
France, 27 brls. J. T. Baker
Holland, 5 cks. Duggan, Neel & Co.
,, 15 Randall Bros.

Lithopone—
Belgium, 50 cks. J. L. Lyon & Co.
,, 20 Felton & Crepin
Holland, 88 F. T. H. Nye
,, 20 cs. Cross, Sherwood & Co.

Magnesia—
Germany, £40 Prop. Hay's Wf.
Holland, 1 t. J. Barber & Co.

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Magnesite—
Germany, £11 Argo S.S. Co.
Holland, 5 Wolf & Co.
,, 42 S. Taylor & Sons
,, 5 W. H. Muller & Co.

Manganese Resinate—
Germany, 2 c. Drolenvaux & Bremner

Manure—
France, 50 t. J. Carter & Co.
Norway, 2 L. & I. D. Jt. Co.

Mercury—
France, 16,950 lb. L. & I. D. Jt. Co.

Olive Oil—
France, 30 gls. B. & F. Wf. Co.

Paraffin Scale—
U.S.A., 292 t. 16 c. Anglo Amer. Oil Co.
,, 16 8 H. Hill & Sons
Germany, 1 16 Hartogh & Co.

Paraffin Wax—
U.S.A., 5 t. 12 c. Anglo Amer. Oil Co.
E. Indies, 6 R. Hill & Son
Holland, 2 J. Barber & Co.
,, 2 Wilkins, Campbell & Co.
U.S.A., 27 10 L. & I. D. Jt. Co.

Plumbago—
U.S.A., 6 cks. Beck & Pollitze
Ceylon, 84 brls. Reckitt & Sons
,, 95 J. & R. Haller
,, 82 Doulton & Co.
,, 34 Thredder, Son & Co.
Germany, 23 cks. ,,

Potash—
Germany, 94 cks. Wilkins, Campbell & Co

Potassium Bichromate—
Holland, £58 Van Dam & Co.

Potassium Carbonate—
France, 5 cks. Petri Bros.
Belgium, 4 Luke & Bailey
,, 4 Charles & Fox
Germany, 25 J. M. Steel & Co.
,, 12 R. Waters
,, 10 Petri Bros.

Potassium Chlorate—
Sweden, 40 kgs. G. Boor & Co

Potassium Fluoride—
Holland, 2 cks. Petri Bros.

Potassium Iodide—
Japan, £200 L. & I. D. Jt. Co.

Potassium Permanganate—
Germany, 110 kgs. R. W. Greeff & Co

Potassium Prussiate—
Belgium, 12 cks. J. Owen

Pyrogallic Acid—
Germany, 30 cs. A. & M. Zimmermann

Quinine—
Germany, 3,000 cs. L. & I. D. Jt. Co.

Red Lead—
Holland, 36 cks. F. T. H. Nye
,, 10 Felton & Crepin
,, 41 J. L. Lyon & Co.
,, 2 W. H. Muller & Co.
France, 90 brls. J. Watt & Sons
,, 82 W.H.Muller & Co.

Ripolin—
Holland, 28 cs. Phillipps & Graves
,, 40 brls.

Rosin—
U.S.A., 350 brls. Watt & Sons
,, 1,800 London Oil Storage Co.
,, 1,000 Vokins & Co.
,, 50 Goodlake & Nutter
,, 2,800 Produce Brokers Co.
,, 600 Hill & Sons
,, 1,000 Rosin & Turp. Import Co.
,, 39 Lunham & Moore

Rosin—
Holland, 27 pks. Van Dam & Co.
France, 29 Watt & Sons
,, 16 brls. ,,
,, 153 Rosin & Turp. Co.

Salicylic Acid—
Germany, 3 cs. T. H. Lee

Salt—
Portugal, £70 A. Phipps

Saltpetre—
Germany, 9 c. L. & I. D. Jt. Co.

Scheelite Ore—
E. Africa, 10 t. J. T. Rennie, Son & Co.

Silicate—
Belgium, £17 Harrison & Co.

Silver Ore—
U.S.A., 8 t. B. Ackerley & Son

Soap—
France, £43 Beresford & Co.
,, 61 B. & F. Wf. Co.
,, 203 Vokins & Co.
,, 23 Pickfords, Ld.
,, 9 Mory & Co.
,, 80 Windschuegl & Co.
,, 25 Amer. Express Co.
U.S.A., 260 Richards & Sons
,, 400 W. Davis
,, 498 Lunham & Moore
,, 17 Knight & Morris
France, 8 Mory & Co.
Holland, 9 W.H.Muller & Co.
,, 16 T. H. Lee
Germany, 80 L. & I. D. Jt. Co.
Belgium, 5 J. Cockerill Line
,, 40 D. C. Thomas & Son

Soap Powder—
Germany, £135 London & Rhine S. Office

Soda—
Germany, 7 c. T. H. Lee
,, 5 t. 7 A. & M. Zimmermann
Holland, 5 J. M. Steel & Co.
,, 3 A. Kempin

Soda Crystals—
Holland, 81 t. P. Windmuller & Co.
Belgium, 25 t. G.A.Loos & Co
Holland, 56 W.H.Muller & Co.

Sodium Acetate—
France, 19 t. J. Harrison

Sodium Bicarbonate—
Belgium, 10 t. 6 c. T. W. McKenzie

Starch—
U.S.A., 14 t. 9 c. News, Son & Vanes Wys.
,, 25 Bennett's Haulage Co.
France, 9 A. C. Stitchlock
,, 5 C. E. Wood
Holland, 2 10 Burgoyne & Co.
,, 15 cs. W. Grose & Co.
,, 16 10 c. W. H. Muller & Co.
,, 18 E. & T. Pink
Belgium, 10 Henderson, Craig & Co.
Holland, 15 15 J. Barber & Co.
,, 1 4 W. H. Muller & Co.
,, 28 Little & Johnston
U.S.A., 1 10 Beck & Pollitzer
,, 25 Ohlenschlarger Bros.
Belgium, 2 C. E. Wood
,, 7 8 J. Harrison

Stearine—
Belgium, 63 bgs. G. Jennings
,, 25 H. Hill & Sons

Strontium Nitrate—
Germany, £85 G. Boor & Co.

Sulphuric Acid—
Belgium, 200 t. Anglo Cont. Guano Wks.

Superphosphate—
France, 235 t. Lawes Chem. Manure Co.
U.S.A., 100 Hunter & Lorenz

Tallow—
Belgium, 6 cks. J. Harrison
,, 140 brls. B. & F. Wf. Co.
S. Aust., 151 cks. Henderson, Craig & Co.
,, 37 Lucas & Spencers Wf.
Victoria, 240 Mordaunt Bros.
,, 60 Cuthbert & Hall
,, 283 Thornett & Fehr
,, 48 Goad, Rigg & Co.
,, 221 Union Ltge.
,, 56 France, Fenwick & Co.
,, 82 Sampson & Co.
,, 93 Henderson, Craig & Co.
,, 81 J. Owen
,, 29 Hill & Sons
N.S.W., 7 Creig & Co.
,, 147 Bessler, Waechter & Co.
,, 60 Cuthbert & Hall
,, 109 Henderson, Craig & Co,
,, 200 A. J. Humphrey
,, 145 Sanderson, Murray & Co.
,, 48 France, Fenwick & Co.
,, 277 Concordic Wf.
,, 58 Thornett & Fehr
,, 19 Lampson & Co.
,, 516 Phillipps & Graves
,, 99 Anning & Cobb
,, 276 Henderson, Craig & Co.
,, 120 Hill & Sons
,, 20 J. Greig
,, 178 Goad, Rigg & Co.
Queensland, 211 ,,
,, 408 Thornett & Fehr
,, 400 Anning & Cobb
,, 532 Bessler, Waechter & Co.
,, 117 J. Greig
,, 126 Mordaunt Bros.
,, 273 Argentine Rep.
,, 404 Phillipps & Graves
N. Zealand, 21 Leach & Co.
,, 250 New Sum & Vanes Wys
,, 46 Anning & Cobb
,, 83 L. & I. D. Jt. Co.
U.S.A., 60 W. H. J. Alexander
Arg. Rep., 111 Phillipps & Graves

Tartar—
Holland, 4 cks. Kirkpatrick, Barr & Co.
,, 6 T. H. Lee
Queensland, 10kgs. Thompson, Fraser & Co.
France, 2 10 Potts Bros.
,, 9 B. & F. Wf. Co
,, 36 pks. F. C. Devon. & Co.

Tartaric Acid—
Holland, 10 kgs. Kirkpatrick, Barr & Co.
,, 10 cks. F. C. Devon & Co.

Tin Ashes—
France, 1 t. Vivian Younger & Co.

Tin Ore—
Victoria, 2 t. Butler's Wf.
E. Africa 79 Page, Son & East

Thorium Nitrate—
Germany, £625 Argo S.S. Co.

Turpentine—
N. Russia, 473 brls. London Oil Storage Co.
Ceylon, 54 Moore & Hole
U.S.A., 100 London Oil Stge. Co.
,, 1,600 Goodlake, Nutter
,, 3,250 Prod. Broker's Co.
France, 50 J. Watt & Sons

Ultramarine—
Holland, 2 cks. N. Foley & Co.
,, 8 cs. W. H. ,, 3 pks. Muller & Co.
Belgium, 5 cks. Leach & Co.
Germany, 2 W. H. Muller & Co.
,, 2 Lewis Bergen & Sons

Wax—
Germany, 80bgs. 20 cs. T. H. Lee
,, 1 Craven&Co.
,, 2 L. & I. D. Jt. Co.
,, 20 London & Rhine S. Office
,, 2 Wilkins, Campbell & Co.
,, 87 bls. J. Barber & Co.
E. Indies, 5 Cook & Co.
,, 17 J. W. Cook & Co.
S. Aust., 1 pk. Blyoh, Green & Co.
France, 1 L. & I. D. Jt. Co.
,, 20 cks. Baxter, Hoare & Co.
Holland, 20 bgs. W. H. Muller & Co.
Queensland, 1 Anning & Cobb
Japan, 2 cs. Cook & Co.

White Lead—
Belgium, 98 cks. J. L. Lyon & Co.
Holland 50 Spies Bros. & Co.
U.S.A. 36 brls. R. W. Greeff & Co.
30 Taylor Bros.

Wolframite Ore—
P. E. Africa 2 t. J. T. Rennie, Sons & Co.

Vannillin—
Germany 11 t. 1 c. L. & I. D Jt. Co.

Zinc Ashes—
Tasmania 1 t. J. Greig

Zinc Oxide—
Holland 25 cks. F. T. H. Nye

Zinc White—
Holland 15 cks. W. H. Muller & Co.

LIVERPOOL.

Week ending July 18

Acetate of Lime—
Montreal, 943 sks.

Acetic Acid—
Rotterdam, 4 cks.

Alcohol (Wood Spirit)—
Boston, 67 dms. Greeff & Co.

Aluminium—
Marsala, 21 cs.
Havre, 280 bgs.

Antimony—
A'fagasta 750 sks. A. Aramayo

Antimony Ore—
A'fagasta 564 bgs. J. L. Barber
Mollendo 53 Barber & Co.
Syra 82
Oporto 6 cks.

Antimony Sulphide—
A'fagasta 406 sks. J. L. Barber
,, 42 Bank Aleman

Barium Sulphate—
Antwerp, 49 cks. 450 bgs.

Barytes—
Rotterdam 883 bgs.

Bones—
Lisbon, a qnty.
Alexandria. 644 bgs.

Borate—
A'fagasta, 410 bgs. Borax Consolidated Ltd.

Borax—
A'fagasta, 1,555 bgs. Borax Consolidated Ltd.
,, 768 Cueritas T. Co.

Castor Oil—
Antwerp, 14 brls.

Chemicals (*otherwise undescribed*)
Hamburg, 1 cs.
Rotterdam, 2
A'fagasta, 13,089 bgs. Duncan Fox & Co.

Coal Products—
Aniline Salt
Rotterdam, 4 cks.
Pitch
Bordeaux, 100 cs.
Tar
Gothenburg, 20 hf-brls. Bell Bros. & Co.
,, 4 12 brls.

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Colours—
Hamburg, 26 cs.
Rotterdam, 1 pk.

Copper Ore—
Lisbon, 100 t.
Hamburg, 100 bgs. Brown, Geveke & Co.
A'fagasta, 179 sks.
Mollendo, 398 Goyensche & Co.
" 720 Lampa M. Co.
" 1,024 Rio Lamba Der Co.
A'fagasta, 970 Dia de Cobras de Ant.
" 1,633 Bk. of Tarapaca

Dyestuffs—
Chestnut Extract
Leghorn, 100 brls.
Marseilles, 300
Dyewood Extract
Philadelphia, 50 brls.
Hemlock Extract
Boston, 60 brls.
Myrabolans
Bombay, 900 bgs.
Oak Extract
Fiume, 1,048 brls.
Sumac
Palermo, 1,375 bgs. / 150 bls.

Ether—
Havre, 1 cs.

Glucose—
Antwerp, 10 cks.

Glue—
Antwerp, 10 cks.
Boston, 40 cs. / 34 pks. / 20 brls.
Constantinople, a qnty.
Fiume, 80 bgs.
Rotterdam, 2

Gluestock—
Hamburg, 187 pks.
Marseilles, 300 bgs.

Horn Piths—
Lisbon, a qnty.

Iron Oxide—
Malaga, 6 cs.
Trieste, 13 bls.

Litharge—
Rotterdam, 36 cks.

Lithopone—
Rotterdam, 120 cks.

Manganese Ore—
Bombay, 4,200 t.

Manganese Silicon—
Bordeaux, 137 cks.

Mineral White—
Bordeaux, 200 bgs.
Trieste, 180

Olive Oil—
Palermo, 1 ck.
Marseilles, 546 cs.
Bordeaux, 742

Oxalic Acid—
Hamburg, 5 cks.

Phosphate—
Treport, 500 t.

Phosphorus—
Montreal, 133 cs.

Potash—
Dunkirk, 100 dms.

Potash Lye—
Hamburg, 45 dms.

Potassium Muriate—
Hamburg, 250 bgs.

Potassium Prussiate—
Antwerp, 8 cks. Fletcher & Co.

Red Lead—
Dunkirk, 9 brls.
Rotterdam, 38 cks.
Rouen, 8 Co-op. W'sale Soc. Ld.

Rosin—
Bordeaux, 1,100 cks.

Rubber—
Havre, 483 pks.
Lisbon, 1 938 bgs.
Ibacoatiara, 16 cs. Singlehurst & Co.
" 2 Halburt, Symons & Co.
Ghent, 1 pk.
New York, 46 bls.
Cartagena, 5
Lagos, 1 ck. MacIver & Co.
Accra, 2 J. P. Werner
C. Coast, 1 African Assn.
" 1 Fischer & Co.
" 1 E. & A. Swanzy
" 3 Miller's, Ld.
" 4
Sekondi, 2 Russell & Co.
" 3 Miller's, Ld.
" 1 F. & A. Swanzy
" 1 J. P. Werner
" 1 cs. African Assn.
New York, 73
Manaos, 575
Para, 793
Montreal, 2
Mollendo, 77 bls. Kleinwort, Son & Co.
" 168 Bieber & Co.
" 122 Schroeder & Co.
" 26 Barber & Co.
Burutu, 1 223 bgs. Niger Co. Ld.
" 64
" 196 10 cks. Holt & Co.

Salt—
Marseilles, 100 bgs.

Saltpetre—
Hamburg, 5 cks.

Salt (Waste)—
Hamburg, 300 bgs.

Silver Ore—
A'fagasta, 394 sks. Gross, Inbelett
" 250 Avelino Aramayo
" 288 t. Woodgate, Sons & Co.

Soap—
Marseilles, 116 cs.

Soap Lyes—
Marseilles. 30 dms.

Soap Powder—
New York, 250 bxs. Wilson, Roland & Co.

Soap Stock—
Boston, 174 brls.

Starch—
Fiume, 260 cs.
Antwerp, 190 80 bxs.
Hamburg, 50

Stearine—
Antwerp, 63 bgs.

Talc—
Genoa, 100 bgs.

Tallow—
P'delphia, 110 tres. 200 brls.
New York, 26 cks. 100 hhds.
" 625 tres.
Boston, 75 brls. Lane & Co.
N. Orleans, 100 514 tres.

Tin Ore—
Hamburg, 63 bgs. Brown, Geveke & Co.
A'fagasta, 285 Duetchin Bank
" 320 London Agency
" 616 Avelino, Aramayo
" 271 J. H. Schroeder
" 1,970 Titley & Co.
" 60 Hainsworth, Watson
" 1,820 sks. Gibbs & Sons
" 200 Cia de Estance de A.
" 117 J. B. Minchin
" 691 Bk. of Tarapaca

Turpentine—
Libau, 4 brls.

Ultramarine—
Rotterdam, 40 cks.

Wax (Mineral)—
Hamburg, 10 brls.

White Lead—
Trieste 10 cs.
Rotterdam, 165 cks.

Zinc Oxide—
Antwerp, 28 brls.
New York, 300
Rotterdam, 52 cks.

Zinc White—
Rotterdam, 41 cks.

MANCHESTER.

Week ending July 20.

Acetic Acid—
Rotterdam, 70 bls.

Alcohol (Methylic)—
Rotterdam, 2 cbys.

Alumina Sulphate—
Ghent, 100 bgs.

Antimonin—
Rotterdam, 5 kgs.

Asbestos—
Antwerp, 14 cs. 1 bl.

Barytes—
Antwerp, 15 cks.
Hamburg, 100 bgs.

Calcium Carbide—
Fredrikstad, 70 dms.

Caustic Soda—
Gothenburg, 5 cs.

Chalk—
New York, 20 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.
Rouen, 26
Rotterdam, 64 3 cs. 95 kgs.

Coal Products—
Alizarine
Rotterdam, 129 cks.
Aniline Colour
Rotterdam, 51 cks. 3 cs.
Aniline Salt
Rotterdam, 49 cks.
Creosote Salt
Rotterdam, 58 cks.
Naphthaline
Antwerp, 250 bgs.
Naphthylamine
Rotterdam, 2 cks.
Toluidine
Rotterdam, 1 dms.

Cobalt Oxide—
Rouen, 6 cs.

Colours—
Antwerp, 16 cks.
Hamburg, 108 11 cs.
Rotterdam, 232 13 17 pks.

Copper Ore—
Montreal, 500 bgs.

Cream of Tartar—
Rotterdam, 1 ck.

Dextrine—
Stettin, 90 bgs. Brown, Geveke, & Co.
" 570

Dyestuffs—
Tannin
Hamburg, 9 pks.

Farina—
Stettin, 1,850 bgs. Brown, Geveke & Co
" 2,671
Rotterdam, 985

Ferro Chrome—
Rouen, 35 cks.

Gelatine—
Rouen, 16 cs.

Glucose—
Stettin, 83 cks. / 1,000 bgs.

Glue—
Antwerp, 201 bgs.
Hamburg, 10
Rotterdam, 6 cks.
Rouen, 30 pks.

Gluestock—
Marseilles, 300 bgs.

Lactic Acid—
Rotterdam, 2 cks.

Lead Acetate—
Stettin, 13 cks.

Litharge—
Rotterdam, 40 cks.

Magnesite—
Amsterdam, 40 bgs.

Oxalic Acid—
Hamburg, 18 cks.

Paraffin Scale—
New York, 2,080 brls.

Phosphate—
Antwerp, 34 cks.

Phosphorus—
Montreal, 150 cs.

Potash—
Hamburg, 25 cks. 3 dms.

Potassium Prussiate—
Hamburg, 30 cks.
Antwerp, 30

Potassium Sulphate—
Hamburg, 100 bgs.

Rosin—
Savannah, 1,050 brls.
New York, 1,450

Saltpetre—
Hamburg, 32 cks.

Salt (Waste)—
Hamburg, 200 t.

Soap—
Rotterdam, 2 cs.
New York, 925 brls.

Soda Crystals—
Antwerp, 24 cks.

Sodium Acetate—
Antwerp, 18 cks.

Starch—
Antwerp, 492 cs.
Dunkirk, 40 30 brls. / 50 bgs.
Marseilles, 40
New York, 2,950
Rotterdam, 25

Stearine—
Antwerp, 60 bgs. / 2 cks.
Rouen, 26

Talc—
Hamburg, 5 bgs.

Tallow—
New York, 170 tres.

Tartar—
Hamburg, 10 cks.

Turpentine—
Savannah, 950 brls.

Ultramarine—
Rotterdam, 16 pks.

Zinc Ashes—
Stettin, 15 cks.

Zinc Oxide—
Rotterdam, 45 brls.

Zinc White—
Stettin, 35 cks.

HULL.

Week ending July 20.

Acid (*otherwise undescribed*)—
Rotterdam, 20 blns. Hull & N. S.S. Co.

Asbestos—
Riga, 4 pks.
Reval, 1 750 bgs.

Asphalt—
Hamburg, 10 brls.
Bremen, 847 cks. Veltmann & Co.
" 8 / 163 t.

Barytes—
Antwerp, 73 cks.
Rotterdam, 500 bgs. Hull & N. S.S. Co.

Carbon—
Antwerp 12 cs. Wilsons & N.E. R. S. Co.

Chemicals (*otherwise undescribed*)
Rotterdam, 4 cks. Hull & N. S.S. Co.
" 12 btls. H. & B. Rly. S.S. Line
Bremen, 5 cs. Veltmann & Co.

Chrome—
Bremen, 4 cks. Veltmann & Co.

Coal Products—
Alizarine
R'tterdam, 9 cks. H & B. / 324 brls. Rly. / 18 cs. S.S. Line
" 6 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 404 pks. Hull & N. S.S. Co.
Aniline Dye
Rotterdam, 18 cks. 3 cs. H. & B. Rly. S.S. Line
Tar Oil
Hamburg, 26 dms. Wilsons & N. E. R. S. Co.

Colours—
Rotterdam, 12 cks. Hull & N. S.S. Co.
Antwerp, 51 pks.

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Colours—
Bremen, 3 cks. Veltmann & Co.
Gelatine—
Rotterdam, 5 cs. Hull & N. S.S. Co.
Furric—
Dunkirk, 33 cks. Wilsons & N.E. R. S. Co.
Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.
Stettin, 200 Wilson, Sons & Co., Ld.
Fiume, 50 ,,
Glucose—
Rotterdam, 40 bgs. Hull & N. S.S. Co.
Glue—
Rouen, 53 pks. Wilson, Sons & Co. Ld.
Rotterdam, 10 cs. Hull & N. S.S. Co.
Dunkirk, 12 brls. Wilsons & N.E. R. S. Co.
Litharge—
Rotterdam, 19 cks. Hull & N. S.S. Co.
Magnesium Muriate—
Hamburg, 15 cks. Wilsons & N.E. R. S. Co.
Oleine—
Antwerp, 6 brls. Wilsons & N.E. R. S. Co.
Oxide—
Rotterdam, 4 cks. Hull & N. S.S. Co.
Potash—
Hamburg, 30 cks. Wilsons & 58 dms. N.E.R.S. Co.
Plumbago—
Hamburg, 34 cks. Wilsons & N.E. R. S. Co.
Stockholm, 11 brls. Wilson, Sons & Co., Ld.
Rosin—
Antwerp, 11 brls. Wilsons & N.E. R. S. Co.
Rotterdam, 4 21 bgs. Hull & N. S.S. Co.
Saltpetre—
Hamburg, 20 kgs. Wilsons & N.E. R. S. Co.
Soda
Ghent, 50 bgs.
Starch—
Antwerp, 470 cs.
Rotterdam, 10 H. & B. Ry. S.S. Line
Bremen, 11 cks. } 850 } Veltmann & Co.
Ghent, 75 Wilsons & N.E. R. S. Co.
,, 78
Bremen, 47 ,,
Tallow—
Montreal, 70 cks. Wilson, Sons & Co., Ld.
Tartaric Acid—
Bari, 12 brls. Wilson, Sons & Co., Ld.
White Lead—
Rotterdam, 44 cks. Hull & N. S.S. Co.
Valonia—
Smyrna, { 3,751 bgs. { 260 t.

GLASGOW.

Week ending July 25.

Acetic Acid—
Christiania, 10 cks.
Aluminium—
Antwerp, 15 cks.
Antimony—
Hamburg, 8 bgs.
Barium Sulphate—
Antwerp, 208 cks.
Caustic Potash—
Hamburg, 68 dms.
Chemicals (*otherwise undescribed*)
Rotterdam, 10 cs.
Colours—
New York, 200 brls.
Rotterdam, 60 pks.
Dyestuffs—
Cutch
Rangoon, 950 bxs.
Farina—
Perth, 600 pks.
Glucose—
New York, 660 brls.
Glue—
New York, 1 bx.
Rouen, 30 bls.
Antwerp, 20
Linseed Oil—
Amsterdam, 196 brls.
Lithopone—
Antwerp, 107 cks.
Rotterdam, 60 sks.
Manganese Antiborate—
Hamburg, 3 cks.
Oleine—
Antwerp, 8 cks.
Oxalic Acid—
Hamburg, 5 cks.
Potash Lye—
Hamburg, 20 dms.
Potassium Prussiate—
Antwerp, 8 cks.
Rosin—
New York, 500 brls.
Philadelphia, 800
Hamburg, 297 bgs.
Salt (Waste)—
Hamburg, 50 t.
Soap—
New York, 2 cs.
Soap Powder—
New York, 1,000 bxs.
Amsterdam, 6 cs.
Sodium Nitrate—
Rotterdam, 14 cks.
Starch—
Antwerp, { 8 cks. { 212 cs.
Tallow—
U.S.A., 30 brls.
Rotterdam, 10 trcs.
Tartar Emetic—
Hamburg, 4 cks.
Wax—
New York, 100 brls.
White Lead—
Antwerp, 10 cks.
Zinc Oxide—
Antwerp, 8 brls.
Hamburg, 50 cks.
Zinc Sulphite—
Rotterdam, 1 brl.
Zinc White—
Rotterdam, 30 cks.

TYNE.

Week ending July 20.

Antimony Ore—
Hamburg, 283 bgs. Tyne S.S. Co.
Asphalt—
Hamburg, 50 cks. Tyne S.S. Co.
,, 878 cakes ,,
Barytes—
Rotterdam, 8 cks. Tyne S.S. Co.
,, 39 bgs. ,,
Calcium Carbide—
Trondhjem, 300 dms. P. H. Matthiessen
Litharge—
Rotterdam, 16 cks. Tyne S.S. Co.
Magnesite—
Rotterdam, 100 bgs. Tyne S.S. Co.
Amsterdam, 100 W. Swanston & Sons
Starch—
Rotterdam, 70 cs. Tyne S.S. Co.
Stearine—
Rotterdam, 10 bgs. Tyne S.S. Co.
Sulphur Pyrites—
Huelva, 2,694 t. Tharsis S. & C. Co.
Zinc—
Antwerp, 4 cks. Tyne S.S. Co.
Zinc White—
Rotterdam, 10 cks. Tyne S.S. Co.

GOOLE.

Week ending July 20.

Bog Ore—
Sweden, 185 t.
Amsterdam, 88
Delfzyl, 74
Bone Ash—
Rio Grande, 455 t.
Caoutchouc—
Boulogne, 4 cks.
Hamburg, 1 162 bgs.
Rotterdam, 1 cs.
Chemicals (*otherwise undescribed*)
Antwerp, { 2 cks. { 135 bgs.
Boulogne, 48 4 cs.
Dunkirk, 34
Ghent, 3 80 bgs.
Hamburg { 38 6 cs. 03 dms. { 90 cbys.
Rotterdam, 35
Dyestuffs (*otherwise undescribed*)
Antwerp, { 175 bgs. { 43 cks. { 4 cs.
Boulogne, 1
Hamburg, 411 29
R'tterdam { 865 40 bgs. { 84 cs.
Farina—
Boulogne, 2 cs.
Delfzyl, 444 bgs.
Hamburg { 20 t. { 200
Rotterdam, 20
Glue—
Dunkirk, 26 cks.
Ghent, 20 bls
Olive Oil—
Kuluh, 200 cks.
Phosphate—
Boulogne, 915 bgs.
Pyrites Copper—
Seville, 1,420 t.
Salt (Waste)—
Hamburg { 360 t. { 200 bgs.
Stearine—
Dunkirk, 30 cks.
Amsterdam, 2 bgs.
Boulogne, 5
Wax—
Hamburg, 10 bgs.

GRIMSBY.

Week ending July 17.

Caoutchouc—
Hamburg, 58 cs.
Antwerp, 10
Rotterdam, 1
Chemicals (*otherwise undescribed*)
Hamburg, 2 cs.
Antwerp, 17 cks.
Coal Products—
Creosote
Salyette, 114 t.
Colours—
Hamburg, 12 cks. 21 pks.
Antwerp, 77
Rotterdam, 2
Dextrine—
Hamburg, 6 cks.
Dyestuffs (*otherwise undescribed*)
Antwerp, 10 cks.
Rotterdam, 2 brls.
Dyestuffs—
Tannin
Hamburg, 4 cks.
Gallic Acid—
Antwerp, 3 cks.
Glue—
Hamburg, 20 bgs.
Saltpetre—
Rotterdam, 270 bgs.
Soap—
Dieppe, 3 cks.
Zinc Oxide—
Antwerp, 48 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 23.

Alumina Sulphate—
B. Ayres, 60 cks. £770
Ammonia—
Calcutta, 6 c. 35 cylds., £140
Durban, 23 cs. 50
Delagoa Bay, 4 12
Jamaica, 2 6
Karachi, 3 9
Bombay, 5 8
,, 5 6
Cape Town, 6 8
Rosario, 10 17
Demerara, 2 5
E. London, 5 15
Monte Video, 40 68
Ammonium Carbonate—
Calcutta, 15cks.36 cs. £75
Cologne, 4 c. 7
Algoa Bay, 5 10
Rangoon, 28 71
Odessa, 30 kgs. 50
Libau, 2 6
Ammonium Chloride—
Melbourne, 2 cks. £15
Ammonium Muriate—
E. London, 5 c. £23
Delagoa Bay, 1 6
Ammonium Phosphate—
Hamburg, 3 c. £7
Antwerp, 6 14
Ammonium Sulphate—
Hamburg, 40 t. £480
Ammonium Sulphate—
Las Palmas, 50 t. 10 c. £600
Colombo, 20 4 240
Demerara, 10 122
Yokohama, 200 2,390
Kobe, 100 1,195
Hong Kong, 5 3
Durban, 1 13
Antimony—
Kobe, 58 t.
Madras, 10 c.
Antimony (Regulus)—
New York, 10 t. 4 c.
Rotterdam, 3
Antwerp, 1 4
Bombay, 1
Constantinople, 10
Antimony (Regulus)—
Danzig, 5 t.
Gothenburg, 10 c.
Hamburg, 4 8
Konigsberg, 19
Libau, 1
Odessa, 1 5
Rio de Jan. 10
Antimony Sulphide—
Treport, 12 cks. £196
Arseniate of Lime—
New York, 23 pks. £29
Arsenic—
St. Petersburg, 26 brls. £175
Trieste, 20 kgs. 39
Calcutta, 20 pks. 37
Delagoa Bay, 2 cs. 5

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Asbestos—
Madras, £59
Santos, 15
Copenhagen, 50
Rangoon, 15

Bisulphite of Lime—
Pernambuco, 10 hhds. £12

Bone Meal—
Hamburg 100 t. £480

Bones—
Hamburg 10 t.
Le Treport, £177

Boracic Acid—
Bombay, 5 c. £9

Borax—
Durban, 10 c. £15
Toronto, 1 ck. 7
Rotterdam, 1 t. 17 83

Calcium Carbide—
Cape Town, 37 dms. £41

Calcium Chloride—
Mombasa, 4 dms. £5

Camphor—
Montreal, £324

Carbonate of Lime—
Melbourne, 10 kgs. £7

Caustic Soda—
E. London, 2 t 19 c. £46
Delagoa Bay, 5 5
Buluwayo, 6 5
Durban, 10 12

Chalk—
Boston, 400 t.

Chemicals (*otherwise undescribed*)
E. London, 4 bls. 10 cs. £78
Auckland, 9 27
Jamaica, 7 10dms. 57
Ostend, 10 64
Sekondi, 50kgs. 1 24
Madras, 7 22
Hong Kong, 2 25
Sydney, 3 c. 2 20
Montreal, 1 6
Quebec, 3 125
Hamburg, 8 127
Durban, 4 46
Perth, 3cks. 5 kgs. 22
Rotterdam, 16 4 dms. 109
Cape Town, 5 c. 1 cs. 12
Calcutta, 1 5
Bombay, 7 22
Delagoa Bay, 40 72
Boulogne, 4 47
Vigo, 1 12
Gijon, 1 12
Bilbao, 7 132
Aden, 10 6
Con'nople, 10 2 58
Hiogo, 25 60
Yokohama, 3 19
Patras, 1 10
Rangoon, 9 86
Libau, 4kgs. 5 113
S.Petersburg, 1 11 307

Citric Acid—
Delagoa Bay, 4 c. £41
Hamburg, 2 t. 15 414
Bombay, 8 cs. 95
Lemon, 1 11
Hong Kong, 1 10
Calcutta, 1 11
Rangoon, 1 11
Montreal, 11 102

Citric Acid (Crystals)—
Gibraltar, 2 c. £21

Coal Products (*otherwise undes.*)—
St. Michael's, 4 brls. £6
Delagoa Bay, 50 dms. 8

Coal Products—
Alizarine
Boston, 15 cks. £174
Bombay, 99 613
Madras, 49 173
Tuticorin, 38 307
Aniline Colours
Melbourne, 9 kgs. 1 cs. £38
Aniline Dye
Calcutta, 3 cs. £30
Benzine
Spezia, 5 dms. £80
Benzol
Hamburg, 25 cks. £44
Carbolic Acid
Karachi, 4 cs. £9
Quebec, 3 13
P'delphia, 50 cks. 118
Amsterdam, 51 190
Manaos, 1 6
Sydney, 20 dms. 30
Calcutta, 50 17

Coal Products—
Carbolic Acid (Powder)
Madras, 20 cks. £6
Creosote
Galveston, 1,636 t. £3,161
Boston, 70 cks. 118
Naphthaline
Port Said, 16 cks. £25
Sydney, 14 26
Pitch
Boulogne, 21 cks. £35
Rotterdam, 2 brls. 6
Sydney, 12 15
Hamburg, 55 109
Tar
Bordeaux, 10 cks. £8
Singapore, 25 rnlts. 14
Boston, 500 brls. 320
Sydney, 6 36
Durban, 5 5
Algoa Bay, 500 dms. 16
Tar Oil
Rotterdam, 10 cks. £14
Terebine
Launceston, 3 cs. 15

Copper Sulphate—
Braila, 5 t. £160
Galatz, 10 330
Bordeaux, 50 1,600
Wellington, 1 32
E. London, 19 c. 33
Delagoa Bay, 4 8
Rotterdam, 55 145

Cottonseed Oil—
Bordeaux, 18 t. 18 c.
Genoa, 27 6
Rotterdam, 16 13
Dunkirk, 10
Hamburg, 2 4
Melbourne, 9 17

Disinfectant—
Cape Town, 2 c. £75
Hong Kong, 17cs. 100dms. 37
Hobart, 2 6
Trinidad, 1 6
Calcutta, 4 500 43
Colombo, 2 29 24
Bombay, 1 12 6
Gothenburg, 3 49
E. London, 5 15 11
Adelaide, 10 29
Sydney, 31 5 88
Bombay, 1 6
Karachi, 150 29
Madras, 4 9
Cologne, 1 22
Hamburg, 10 6
Adelaide, 6brls. 12
Singapore, 10cks. 19
Algoa Bay, 4 7
Beira, 1 25 10
Durban, 75 34
Delagoa B., 140 450 493
Port Sudan, 6 15
Antwerp, 8 464
Penang, 100 29

Fluoric Acid—
Melbourne, 3 c. £11

Glue—
Invercargill, 15 c.
Sydney, 2 t.

Glycerine—
New York, 19 t. 17 c. £690
Durban, 3 6
Bombay, 2 cs. 5
Malta, 2 6
E. London, 2 5
Calcutta, 3 7

Hydrochloric Acid—
Colombo, 4 cs. £13

Hypophosphite of Lime—
Paris, 6 cs. £56

Lactic Acid—
Melbourne, 1 ck. £10
Cape Town, 3 10

Linseed Oil—
Alexandria, 8 t. 9 c.
B. Pappam 1 14
Colombo, 1
Gibraltar, 10
Grenada, 4
Kobe, 4
Mombasa, 10
Paris, 5 1
Patras, 17
Penang, 5 2
Port Said, 14
Rangoon, 4 3
Sekondi, 1 9
Sydney, 1
Wellington, 6 15

Linseed Oil—
Adelaide, 7 t. 6 c.
Antwerp, 15
Bangkok, 1
Bombay, 12
Broome, 2
Calcutta, 6 4
Delagoa B., 1 12
E. London, 14 4
Fiji, 2 10
Jaffa, 14
Jamaica, 5 1
Lisbon, 10
Lyttelton, 12
Melbourne, 16 6
Newcastle, 8 1
Oporto, 1 3
Para, 2 15
Pernambuco, 2 13
Perth, 3 4
Port Alegre, 10 4
P. Elizabeth, 1 5
Rio de Jan., 6 6
Santos, 9 13
Trinidad, 6 7
Malta, 1 8

Manganese—
Delagoa B., 2 t.

Manganese Salts—
Boulogne, 1 cs. £6

Manure—
Hamburg, 10 t. 17 c. £60
Mossel Bay, 17 11 50
Durban, 138 2 550
Lisbon, 260 13 756
Libau, 283 635
Seville, 130 401
Bilbao, 100 355
Wellington, 7 5

Mercury Bichloride—
Mombasa, 1 cs. £6

Mercury Sulphocyanide—
Calcutta, 1 ck. £16

Nitric Acid—
Madras, 2 c. £5
E. London, 6 12
Adelaide, 9 16

Oxalic Acid—
Melbourne, 6 cks. £71

Paraffin Wax—
Amsterdam, 10 c.

Phosphoric Acid—
Adelaide, 2 cs. £7
Sydney, 2 6
Melbourne, 1 5

Phosphorus—
B. Ayres, 3 cs. £40

Plumbago—
Bombay, 2 t.
Rangoon, 1 3 c.

Potash—
Calcutta, 2 c. £17
Calais, 3 12

Potassium Chlorate—
Sydney, 60 cs. £34

Potassium Iodide—
Hong Kong, 1 c. £45
Cape Town, 5 101

Quinine—
Beyrout, 148 ozs.
Bombay, 1,240
Calcutta, 1,785
C Town, 166
Colombo, 1,000
Demerara, 500

Salammoniac—
Mazagan, 8 c. £16
Larache, 3 6
Antwerp, 10 19

Salt—
Barcelona, 2 t.
Brussels, 1
Durban, 2
Rio de Jan., 47
Copenhagen, 2
Delagoa B., 4
Gisborne, 50
Wellington, 3

Saltcake—
Quebec, 200 t. £420

Saltpetre—
Algoa Bay, 5 c. £6
E. London, 1 t. 9 38
Rio de Jan., 3 5 90
Pernambuco, 30 cks 50

Sheep Dip—
Durban, 2 t 1 c £60
B. Ayres, 31 1,000 cs. 1,611

Soap—
Alexandria, 1 t. 3 c.
Beira, 15
Bombay, 15 17
Boulogne, 1
Bremen, 4
Brussels, 1 3
B. Ayres, 4
Calcutta, 2 17
C. Coast, 1
Cape Town, 5 8
Christchurch, 6
Colombo, 5 2
Delagoa Bay, 2 19
Durban, 4 4
E. London, 18
Ghent, 1 9
Gibraltar, 2
Hong Kong, 10
Jamaica, 11
Karachi, 7
Launceston, 5
Limon, 2
Lyttelton, 4
Madras, £25 15
Malta, 3
Melbourne 1
M. Video, 1 t. 6
Oporto, 6
P. Elizabeth, 2 18
Rabat, 3
Rio de Jan., 1
Santos, 5
Tientsin, 9
Trinidad, 2
Wanganui, 3
Bangkok, 2
Barbadoes, 9
Boston, 2 1
Channel Is., 4
Dominica, 1 14
Grenada, 5 12
Hamburg, 1 7
Kobe, 18
Lisbon, 5
Malaga, 1
Manilla, 7
Montreal, 1 11
Mossel Bay, 1
Osaka, 9
Penang, 7
P. Said, 6
Rotterdam, 6
St Petersburg, 2
Sierra Leone, 4
Singapore, 3
Trieste, 1
Yokohama, 9

Soap Extracts—
Wanganui, 1 t.

Soda—
Jamaica, 7 cks. £25
Amsterdam, 9 7

Sodium Arseniate—
P. Elizabeth, 11 t. £372

Sodium Bicarbonate—
Sydney, 10 c. £22

Sodium Hypophosphates—
Paris, 4 c. £34

Sodium Peroxide—
Melbourne, 10 cs. £56

Sodium Sulphide—
Cape Town, 5 c. £6

Sodium Sulphide (Crystals)—
Bombay, 1 t. £7

Sodium Tartrate—
Montreal, 1 t. 8 c. £74
Sydney, 20 cs. 63

Starch—
Alexandria, 1 t. 6 c.
Delagoa B., 5 16
Durban, 5 11
E. London, 3 6
Montreal, 3 4
P. Elizabeth, 3 9
Rouen, 4 9
B. Ayres, 2 12
Channel Is, 1 17
Christchurch, 1 10
Wanganui, 2 10
Wellington, 1 5
St. John, N.B., 6 5

Sulphur—
E. London, 4 t. £46
Mossel Bay, 3 7 c. 38

Sulphuric Acid—
Axim, 3 t. 6 c. £14
Durban, 16 9
Barbadoes, 1 18 6
Channel Is., 18 10
Adelaide, 11 14
Santos, 2 5
Pernambuco, 4 7
Demerara, 7 10 47

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Tallow—
Amsterdam, 2 t.
Hamburg, 32 11 c.
Harlingen, 8 8
Riga, 9 8
Rotterdam, 60 7
Bombay, 3 18
Copenhagen, 18 2
Toronto, 1 13

Tartaric Acid—
Jersey, 1 c. £5
Bombay, 1 6
Delagoa B., 2 kgs. 10
Iquique, 10 63
Madras, 4 14
Manila, 1 5
Durban, 1 5
Rangoon, 1 cs. 3 19

Turpentine—
Colombo, 6 t. 5 c.

White Lead—
Bombay, £5
Calcutta, 148
Durban, 179
E. London, 293
Melbourne, 377
Perth, 87
Sydney, 609
P. Elizabeth, 91

Zinc White—
Talcahuano, £928

LIVERPOOL.

Period ending July 24.

Acetic Acid—
Bombay, 1 t. £19
Delagoa Bay, 3 c. 11
Bombay, 1 19
Rio de Jan., 2 12 48
Sao Paulo, 17 28

Albumen—
Santos, 7 kgs.

Alum—
Bilbao, 6 t. 9 c. £38
Rio de Jan., 5 13 31
Lagos, 5 2
Mossel Bay, 15 5
E. London, 5 2
Sao Paulo, 1 7
Callao, 5 3 27
Varna, 2 1 13
Galatz, 4 9 27
Calcutta, 9 15 52
Hamburg, 10 3
Victoria, B.C., 2 11
Cape Town, 1 5

Ammonia—
Cabendo, 1 c. £5
Bombay, 2 t. 4
Sao Paulo, 10 7
Matadi, 1 cs 1

Ammonia (Anhydrous)—
Lisbon, 1 c. £11

Ammonium Carbonate—
Marseilles, 17 c. £29
Salonica, 16 24
Genoa, 2 t. 17 100
Havana, 1 9 83
Braila, 2 49
Bordeaux, 10 16
Varna, 2 3
Naples, 1 3 40
Hiogo, 4 10 158
Colombo, 10 16
Barcelona, 2 10 84
Sao Paulo, 4 7
Santos, 2 3
Durban, 2 3
Messina, 19 32
Lisbon, 16 26
Havana, 16 21
Rouen, 2 19 95
Rosario, 2 15 90
B. Ayres, 1 cs. 4
Tampico, 1 4

Ammonium Chloride—
Calcutta, 1 t. 3 c. £26

Ammonium Muriate—
Valparaiso, 15 t. £357
Adelaide, 2 c. 3
Bilbao, 6 7
Baltimore, 64 7 1,504
V. Cruz, 10 12
Stockholm, 1 11 38
Alexandria, 4 8 96
Yokohama, 12 14
Alexandretta, 1 24
Stamboul, 3 72

Ammonium Sulphate—
Barcelona, 30 t. £369
Newport, N., 80 13 c. 906
Sourabaya, 251 1 3,032

Ammonium Sulphate—
New York, 139 t. 5 c. £1,635
Samarang, 79 970
Las Palmas, 44 17 556
New York, 81 16 961
Teneriffe, 34 18 363
Alicante, 30 348
Nantes, 30 7 379
Natal, 20 250
Antwerp, 5 137
Rio de Jan., 5 18 117
Valencia, 39 5 468

Arsenic—
Copenhagen, 1 t. £33
M. Video, 5 18 c. 201
P. Arenas, 2 69

Asbestos—
Maranham, 1 cs.
Bombay, 19 coils.

Basic Slag—
Seville, 30 t. £13
Natal, 96 5 c. 288

Bleaching Powder—
Boston, 125 cks.
Christiania, 15 33 bgs.
Constantinople, 17 brls.
Ghent, 30
New York, 153
Portland, 1,123
Riga, 740
Baltimore, 40
Madras, 13 dms.
M. Video, 10
Montreal, 84
New Orleans, 98
Rosario, 150
Rotterdam, 15
Rio de Jan., 20 cs.57

Bones—
Antwerp, 5 t. 18 c. £18
Antwerp, 3 30
Las Palmas, 9 49

Boracic Acid—
Sao Paulo, 8 c. £11

Borax—
Sekondi, 1 cs. £1
Victoria, 1 t. 10 c. 23
Tampico, 3 5
Delagoa Bay, 5 4
New York, 15 9 226

Borax (Crystals)—
Colon, 3 kgs. £3

Calcium Chloride—
Hiogo, 7 t. 11 c. £15
Natal, 10 2 20
Sydney, 9 19 20
Patras, 1 3
Rouen, 10 18

Camphor—
Antwerp, 1 cs.
Maranham, 1

Caoutchouc—
Calcutta, 3 cs.
Maranham, 1

Carbonate of Lime—
New York, 17 t. 5 c. £180

Carbonic Acid Gas—
Lisbon, 8 c. £8

Castor Oil—
Belize, 4 cs.
Iquitos, 5

Caustic Soda—
Acapulco, 25 cs.
Antwerp, 3 brls.
Bilbao, 100 dms.
Bombay, 3 40
Braila, 18
B. Ayres, 35
La Guayra, 10
M. Video, 25
Montreal, 52 180
New York, 148
Oporto, 36
Piræus, 80
Puerto Columbia, 40
Rangoon, 21 89
Rio de Jan., 15
Rotterdam, 18
Rouen, 10
Smyrna, 22
Venezuela, 15
Venice, 145
Christiania, 20
Delagoa Bay, 5
Leghorn, 17 pks.
Para, 40
Pasages, 225
Pernambuco, 260
Pisco, 30
Port Elizabeth, 34
Shanghai, 68
Sydney, 18
Trieste, 29
Vera Cruz, 70
Yokohama, 500

Caustic Soda—
Bahia, 320 dms
Bari, 40
Barcelona, 285 cks 100
Cartagena, 40
Cerro Azul, 30
E. London, 6 139
Fremantle, 2
Galatz, 18
Genoa, 121
Hong Kong, 235
Ibrail, 30
Kobe, 173
Madras, 101
Madeira, 5
Naples, 1,169
Port Elizabeth, 30 cs
Seville, 475
Tarragona, 100
Valencia, 8 58

Chemicals (*otherwise undescribed*)
Calcutta, 2,230 slbs.
239 hf-trcs. £313
Melbourne, 40 kgs. 34
Antwerp, 6 brls. 38
Hiogo, 10 cks. 98
Hamburg, 14 25 285
Montreal, 4 8
Boston, 37 40
Tongku, 1 cs. 1
Bombay, 2 3
V. Cruz, 175 152
Sydney, 1 4
Sao Paulo, 3 13
Rotterdam, 67 bgs. 60
Madras, 622 cs. 1,690
Trieste, 10 35
Valparaiso, 1 c. 2

China Clay—
Baltimore, 150 t.
Barcelona, 40 cks.
Bombay, 436
Callao, 40
Lisbon, 40
New York, 50
Boston, 200
Calcutta, 50
Portland, 1,841
Trieste, 20

Citric Acid—
Rio de Jan., 2 c. £23

Coal Products—
Carbolic Acid
Calcutta, 5 t. 10 c. £76
Carbolic Acid (Crystals)
Calcutta, 2 cs. £8
Sao Paulo, 4 c. 22
Hamburg, 9 30
Carbolic Acid (Liquid)
Iquique, 9 c. £23
Carbolic Acid (Solid)
Barcelona, 10 c. £25
Calcutta, 8 26
Creosote Salts
Boston, 2 t. 7 c. £138
Pitch
Boston, 55 brls.
Genoa, 224
Tar
Accra, 128 brls.
Sulina, 15

Colour—
Dobo, 32 kgs.
Hamburg, 1
La Libertad, 10
N. York, 49 pks.
4 cks, 3 dms.
Talcahuano, 70
Rio de Jan., 25
Santos, 3
Antwerp, 34
Bathurst, 28 brls.
Gibraltar, 1 bx.
Iquitos, 13 bls.
Lisbon, 1
Santiago, 300 kgs.

Copperas—
Madras, 2 t. £4
Orotava, 1 1 c. 3
Tampico, 1 1 3
G. Canary, 2 1 5
Las Palmas, 5 13

Copper Sulphate—
Bourgas, 1 t. 5 c. £40
Varna, 1 9 46
St. John's, N'fld., 3 93
Calcutta, 8 13
Galatz, 14 16 495
Gijon, 1 30
Braila, 1 32
Johannesburg, 2 4 66
Nantes, 10 320
Corral, 4 123
Rio de Jan., 1 19 60

Copper Sulphate—
Barcelona, 10 t. 2 c. £314
M. Video, 21 7 633
Brisbane, 2 10 83
Vigo, 2 61
Callao, 1 31
Rosario, 4 19 130
B. Ayres, 19 32
Constantinople, 9 15
Bordeaux, 19 9 572
Sourabaya, 15 444
P. Alegre, 2 9 79
Sao Paulo, 1 19 61

Cottonseed Oil—
Marseilles, 819 brls.

Cream of Tartar—
Tampico, 2 c. £8

Chromium Acetate—
Lisbon, 19 c. £11

Cyanide (*otherwise undescribed*)
Sekondi, 2 t. £175

Disinfectants—
Brisbane, 10 kgs. £5
Singapore, 40 dms. 30
Kingston, 40 30
Winnebah, 2 cs. 5
Appam, 1 2
Rangoon, 80 41
Montserrat, 2 3
Lagos, 1 4
Alexandria, 1 3
Vera Cruz, 2 2
Calcutta, 310 20 80
Melbourne, 120 78
Barcelona, 68 44 64
New York, 42 cks. 115
Genoa, 25 68
Bombay, 28 500 47
Matadi, 1 1

Dried Blood—
Orotava, 1 t. 8 c. £13
Teneriffe, 9 84
Colombo, 15 145

Farina—
Maranham, 10 bgs.

Fertiliser—
Portland, 4 bgs. £3

Glue—
Baltimore, 280 bgs.
B. Ayres, 3 cks.
Calcutta, 50 cs.
New York, 160
Boston, 100
Lisbon, 5

Glycerine—
Havana, 12 c. £30
Toronto, 2 t. 12 98
Colombo, 2 6
Panama, 1 cs 1
C. Town, 10 29
Algoa Bay, 5 14
E. London, 10 26
Montreal, 3 138
Barcelona, 19 46
Rangoon, 6 18
Rotterdam, 25 2 796
Phila'phia, 100 3,400
Shanghai, 7 7 304

Iron Oxide—
Argentine, 50 cks.
Nantes, 1

Lead Acetate—
Rio de Jan., 2 t. £55

Lead Ore—
Nantes, 102 t. 10 c.

Linseed Oil—
Alexandria, 44 brls.
Dobo, 16 dms.
Madeira, 4
Manilla, 100
Maranham, 20
Messina, 5
Piræus, 12 34
Savanilla, 30 cs. 4
Valparaiso, 400
Antwerp, 4 cks.
Bombay, 461
Cabinda, 10
Cabadello, 40
Cardenas, 34
Cartagena, 16
Hall Jack, 10
Havana, 60
Kingston, 209
Landana, 10
Loanda, 11
Manaos, 109
Para, 16
P. Elizabeth, 5
Rio de Jan., 5
Salonica, 27
Santiago, 50
B. Ayres, 100
Callao, 100
Colombo, 25

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Linseed Oil—
Iquique, 120 dms.
Madras, 175
Palermo, 12 brls.
Pernambuco, 10
Ruffisque, 20
Trieste, 15
Trinidad, 2
Valparaiso, 347
Vera Cruz, 100

Magnesia—
Odessa, 7 c. £11
E. London, 1 cs. 2
B. Ayres, 18 40

Magnesia (Calcined)—
Panama, 1 cs. £3
Tampico, 16 c. 33

Magnesium Carbonate—
Havre, 1 t. 3 c. £20
Barcelona, 19 17
Valencia, 19 20
Sao Paulo, 4 7
Tampico, 12 24

Magnesium Chloride—
Rangoon, 1 t. 4 c. £12

Magnesium Citrate—
Barcelona, 8 c. £42

Magnesium Sulphite—
Melbourne, 2 c £4

Manure—
New York, 34 t £772
Havre, 10 17 c 65
G. Canary, 4 50
Las Palmas, 10 50
Philadelphia, 24 15 36
Havana, 75 435
Boston, 3 4 48
Kobe, 30 315
Genoa, 49 260
B Ayres, 5 150

Olive Oil—
Chili, 2 dms

Paraffin Wax—
Marseilles, 82 bgs
Bari, 205
Callao, 30
New York, 100
Barcelona, 20 bxs
Palermo, 16 pks
Port Alegre, 15 cs

Phosphates—
Mauritius, 40 t 18 c £245

Phosphorus—
Tampico, 5 cs £27
Shanghai, 1 t 15 c 260

Picric Acid—
Rangoon, 3 c £32

Potassium Bicarbonate—
Bilbao, 15 c. £23

Potassium Bichromate—
Beyrout, 5 c. £8
Alexandria, 1 t. 30
Varna, 4 6
Lisbon, 1 10 47

Potassium Carbonate—
Montreal, 1 t. 13 c. £46
Sao Paulo, 4 5
Cape Town, 16 18
Patras, 13 15

Potassium Chlorate—
Rio de Jan., 11 t. 16 c. £354
Hamburg, 5 19 169
Tampico, 1 6 41
Yokohama, 5 150
Torreon, 2 3
Ghent, 5 121
Para, 10 17
Venice, 6 16 180
Genoa, 19 26
Leghorn, 19 26
Bari, 19 26
Ancona, 19 26
Antwerp, 5 123
Ghent, 5 138
Callao, 4 120
Catania, 19 126
Messina, 2 52
Copenhagen, 1 29
St. Thomas, 1 kg. 2

Potassium Cyanide—
N. Orleans, 1 t. 10 c. £104
Tultenango, 35 3,380

Potassium Iodide—
Opobo, 16 c. £181

Red Lead—
Afagasta, 100 kgs.

Rubber—
Ceara, 1 cs.

Salammoniac—
Trieste, 1 t. 10 c. £60
Smyrna, 10 19
Iquique, 6 12
Varna, 9 18
Genoa, 1 37

Salt—
Adjuah, 6 t. 5 c.
Baltimore, 172
Boston, 600
Burutu, 600
Cape Town, 65 50 cs.
Delagoa Bay, 32
Duala, 158 10
Halifax, 250
Lagos, 88 11
Monrovia, 6 13
Newcastle, 112
New York, 125
Portland, 200
Sandy Point, 15
Sapeli, 8 18
Trinidad, 97 17
Amsterdam, 100
Antwerp, 632 5
Barbadoes, 25 81 pks.
B. Ayres, 21
Celabar, 60 4 1,000 bgs.
Copenhagen, 33
Desterao, 25 cs.
Dunedin, 30
Galveston, 100
Ghent, 100
Hamburg, 30 20
Iquitos, 72
Kotonou, 18 15
Lisbon, 100 bgs.
Malmo, 250
Manaos, 17
Matadi, 45
M Video, 150
Montreal, 666 10 2,000
St Johns, N'fld., 5
St Louis, 20
Shanghai, 225 cs.
Stockholm, 173 17
Sydney, 241
Abonnema, 20
Melbourne, 50 pks.
N Orleans, 270
P Elizabeth, 16
Rio de Jan., 17
S Leone, 50
Vancouver, 100

Saltcake—
Antwerp, 120 t. 7 c. £120
Lisbon, 10 10

Saltpetre—
Para, 10 t. £14
Valencia, 9 c. 11

Sheep Dip—
Lisbon, 2 cs. £8
Cape Town, 1 t. 19 c. 22
Delagoa B., 1 37
P. Madryn, 50 63
E. London, 5 5 150
M. Video, 6 1 105
B. Ayres, 150 dms. 22
P. Elizabeth, 50 10
Sydney, 26 1ck. 1 10

Soap—
Accra, 170 bxs.
Alexandria, 200 25 cs.
Antwerp, 156
Barbadoes, 1,152
Bassam, 100
Benin, 500
Bombay, 3,475 80 9 brls.
Bourgas, 26
B. Ayres, 35 pks. 200 dms.
Calcutta, 435 8 5 brls.
Chinde, 100
Delagoa Bay, 618
E. London, 300 114
Galata, 20
Genoa, 250
Grenada, 100 bls.
Lagos, 303 30 pks.
Macasar, 1,000
Manilla, 12
Montego B., 204
Mossel Bay, 209
New York, 109
P. Elizabeth, 200 265
Pram Pram, 50
St. Thomas, 400
Sassandra, 100
Savanilla, 3
Singapore, 721 50
Tamative, 650
Tampico, 250
Winnebah, 250
Yokohama, 100

Soap—
Addah, 100 bxs.
Adjuah, 50
Adam, 570 brls.
Appam, 120
Attuaboe, 120
Axim, 50
Bangkok, 761 cs.
Brazzaville, 15
Cadiz, 62
Camarones, 100
C. Town, 2,681
Dixcove, 62
Durban, 480
Gibraltar, 425
Hamburg, 100
Havanna, 1
H. Kong, 4,150
Huelva, 60 pks.
Karachi, 116 651
Kingston, 3,625
Kobe, 100
Kotonou, 92
Loanda, 10
Macassar, 860
Martinique, 100
Monte Video, 20 50 dms.
Opobo, 560 4
Penang, 9,762
Port Antonio, 61
Port Madryn, 230
Rangoon, 135
Rotterdam, 1,516
St. Lucia, 263
St. Kitts, 106
Salonica, 70
Sapele, 154
Shanghai, 13,530 100
Sherbro, 260
Sulina, 37 26 2 brls.
Trinidad, 2,126
Wellington, 1,200
Barcelona, 11
Cape Mount, 35 bdls.
Corunna, 10 pks.
Duala, 550
Dunkirk, 1,736
Iquique, 1 24 dms.
Limassol, 12
Madras, 161
Manaos, 2,238 pks.
Montserrat, 58
Montreal, 20 dms.
Pernambuco, 6 brls.
Piræus, 35 27
Principulca, 120 pks.
P. Arenas, 16
S. Ann's B., 550
Saltpond, 25
S. Leone, 330
Talcahuano, 101 2
Tientsin, 50
Valparaiso, 300 1
Vigo, 1,300

Soda Ash—
Amsterdam, 300 bgs.
Bombay, 40
B. Ayres, 203 cks. 400
Callao, 10
Geffe, 100
Genoa, 321
Greymouth, 186
Hiogo, 115 1,010
H. Kong, 1,310
Karachi, 250
Kingston, 20
Madras, 21
Montreal, 135 kgs. 150
Naples, 400
Quebec, 135
Shanghai, 1,013 cks. 672
Stockholm, 2,750
Venice, 100
Yokohama, 1,350
Barcelona, 30
Boston, 88
Christiania, 100
Huelva, 160
Patras, 8 brls.
Piræus, 119 100
Rotterdam, 776
Salonica, 35
Smyrna, 100
Calcutta, 1,898
Hamburg, 120
Lagos, 20 kgs.
M. Video, 25
Oporto, 6
Rio de Jan., 70
Rosario, 130
Salaverry, 50
Samarang, 200
Santos, 45
Singapore, 25
Sydney, 124
Tientsin, 2,993
Vera Cruz, 200
Yokohama, 300

Soda Crystals—
Bahia, 2 brls.
Bombay, 100 kgs.
B. Ayres, 50 bgs.
Alexandria, 125
Halifax, 331
Madras, 40
Malta, 145
Montreal, 275
Port Louis, 10
Gibraltar, 197
Calcutta, 34
Durban, 64
Limassol, 140
Monte Video, 50
Penang, 10 cks.
Pernambuco, 10
Port Elizabeth, 110
Rosario, 150
Shanghai, 5

Sodium Bicarbonate—
Bari, 75 kgs.
Bombay, 522
Galatz, 20
Gibraltar, 107
Greymouth, 551
Halifax, 125
Havana, 24
Hiogo, 1,025 bgs. 1,500
Karachi, 700
La Libertad, 20
Madras, 300
Naples, 155
Para, 10
Penang, 5 cks.
Quebec, 50 200 440
Rangoon, 130
Salonica, 74
Seville, 15 273
Trinidad, 293
Varna, 44 100
Venice, 150
Yokah'ma, 1,050
Alexandria, 90 pks. 75
Bilbao, 2 cks.
Christiania, 20 dms.
Cochin, 28 kgs.
Corunna, 10 brls.
Gijon, 30
Santander, 40
Varna, 22 dms.
Adelaide, 6 45 bgs.
Barcelona, 5
Calcutta, 509
Durban, 60
Genoa, 78
Malaga, 10
Malta, 20 kgs.
Melbourne, 80 pks.
Montreal, 85 cks.
Patras, 30
Rio de Jan., 40
Sydney, 20
Tangier, 10
Valencia, 115
Vancouver, 395
Vera Cruz, 37
Victoria, B.C., 25
Yokohama, 2,000

Sodium Bichromate—
Christiania, 3 cks.
Lisbon, 2

Sodium Borate—
Rotterdam, 20 cks.

Sodium Cyanide—
Delagoa Bay, 40 cs.

Sodium Hyposulphate—
Halifax, 50 brls.

Sodium Silicate—
Bombay, 6 brls.
Cape Town, 8
Catania, 178
Genoa, 102 bgs.
Gibraltar, 7 cks.
Leghorn, 33
Limon, 6 dms.
Rotterdam, 30
San Sebastian, 33
Adelaide, 16
Montreal, 38
Opobo, 32

Sodium Stannate—
Bombay, 20 cks.

Sodium Sulphide—
Barcelona, 4 t. 9 c. £24

Starch—
Galatz, 16 cs.
Maranham, 8 bgs.
Santos, 24 cks.
Iquitos, 7
Barcelona, 50 sks.

Stearine—
Copenhagen, 11 crts.
Rotterdam, 25 trcs.

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Sulphur—
Dunedin, 3 t. £19
San Jose, 1 1 c. 8
Montreal, 250 1,031
Stockholm, 59 225

Sulphuric Acid—
Mauritius, 10 c. £5
Bilbao, 3 15

Superphosphate—
Orotava, 18 t. 6 c. £44
Las Palmas, 2 4 6
Teneriffe, 19 9 62
G. Canary, 16 57
Tarragona, 99 3 218
Alicante, 376 3 873
Canaria, 4 18 10
Oporto, 198 534
Gijon, 198 494
Vinaroz, 7 4 13

Talc—
Santos 10 cks.

Tallow—
Aboisso, 30 brls.
Alexandria, 6 pps.
Hamburg, 55 tres.
Odessa, 53
Rotterdam, 45
Braila, 57
Catania, 8
Constantinople, 30
Gijon, 4
Oporto, 6 cks.

Tin Crystals—
Rio de Jan., 5 c. £29
Lisbon, 1 6

Turpentine—
Madeira, 2 brls.
Manila, 60 dms.

Ultramarine—
Fiume, 20 cks.
New York, 16 pks.

White Lead—
Halifax, 199 kgs.
Santiago, 8 brls.
B. Ayres, 20 dms.

Wolfram Ore—
Rotterdam, 1 t. 3 c.

Zinc Chloride—
Bombay, 11 t. 19 c. £142

Zinc Muriate—
H. Kong, 2 t. 13 c. £34
Madras, 5 8 75
Bombay, 15 3 206

MANCHESTER.

Period ending July 24.

Ammonium Carbonate—
B. Ayres, 20 cs.

Calcium Sulphate—
Antwerp, 100 brls.

Chemicals (*otherwise undescribed*)
Genoa, 5 cks.

Coal Products—
Carbolic Acid
Ispahan, 1 cs.
Tar
P'delphia, 50 cks.

Colours—
Boston, 3 cs.

Copperas—
Bussorah, 100 brls.

Disinfectants—
Bombay, 20 cks. 30 dms.

Dyestuffs (*otherwise undescribed*)
Boston, 35 cks.

Dyestuffs—
Aniline Dye
Boston, 1 ck.
Aniline Salt
Alexandria, 2½ brls.

Glue—
Antwerp, 10 cks.
Rotterdam, 23
Boston, 1
Barcelona, 8

Linseed Oil—
Alexandretta, 2 brls.

Flux Skimmings—
Antwerp, 8 cks.

Manure—
Leghorn, 889 bgs.

Potassium Bichromate—
Hamburg, 4 cks.

Potassium Chlorate—
Shiraz, 1 cs.

Rubber—
B. Ayres, 1 cs.

Salt—
Boston, 200 t.
Rotterdam, 200
St. John, N.B., 500
Quebec, 200

Soap—
Alexandria, 22 cs.
Bussorah, 65 bxs.
Bombay, 12 50 dms. a qnty.

Sodium Acetate—
Alexandretta, 6 cs.

Sodium Bichromate—
Antwerp, 3 cks.
Shiraz, 4

Tallow—
Naples, 5 cks.
Bombay, 115

Zinc Ashes—
Germany, 285 bgs.

Zinc Oxide—
Alexandretta, 4 kgs.

HULL.

Week ending July 20.

Ammonium Sulphate—
Bremen, 667 bgs.
Hamburg, 500

Chemicals (*otherwise undescribed*)
Abo, 2 cs.
Bombay, 116 cks.
Bremen, 4 pks.
B. Ayres, 42 50
Christiania, 11 200 bgs. 50
Copenhagen, 1 kg. 2 cs. 2 dms.
Drontheim, 25 cks. 1
Danzig, 5
G'henburg 459 slbs. 100 bgs.
Hamburg, 1 2 cs. 159 2 kgs.
Helsingfors, 11
Karachi, 162
Libau, 20
Rotterdam, 18 35
St. Petersb'g, 11 15
Stettin, 10 4
Stavanger 100 bgs.
Simonstown, 5 50 dms.

Coal Products—
Naphtha
Dunkirk, 14 dms. 50 brls.
Pitch
Antwerp, 283 t.
Bombay, 5 cks.
Tar
Antwerp, 7 cks.
Amsterdam, 10
Bergen, 8
Harlingen, 10
Rotterdam, 10
Stettin, 10

Cottonseed Oil—
Amsterdam, 2 t. 10 c.
Bergen, 1 15
Christiania, 1 1
Drontheim, 16
Gothenburg, 2 2
Hamburg, 47 19
Stettin, 17

Dyestuffs (*otherwise undescribed*)
Ghent, 3 cks.

Glue—
Bergen, 1 cs. 13 bgs.
Ghent, 1 ck.
Gothenburg, 4

Linseed Oil—
Bombay, 23 t. 16 c.
B. Ayres, 23 4
Christiania, 3 4
Christiansand, 7
Drontheim, 2 6
Hamburg, 5 4
Helsingfors, 2 1
Karachi, 1 4
M. Video, 3 4
Rio de Jan., 18
Stavanger, 14

Manure—
Hamburg, 2,081 bgs.
Lisbon, 500 t.
Riga, 2,080

Molasses—
Bergen, 35 brls.

Soda Ash—
Port Said 1 ck.

Starch—
Simonstown, 5 cs.

Turpentine—
Amsterdam, 6 cks.
Rotterdam, 36

Wax—
Libau, 150 bgs.

GLASGOW.

Week ending July 25.

Ammonia (Anhydrous)—
Rangoon, 4 c. 1 q.

Castor Oil—
Adelaide, £25

Chemicals (*otherwise undescribed*)
Tampico, £169
Adelaide, 52
Melbourne, 259
Venice, 27

Coal Products—
Tar and Pitch
Canada, £10
Rangoon, 177
Tar
Calcutta, £260

Cottonseed Oil—
Algoa Bay, £57

Linseed Oil—
Trieste, 3 t. 1 c. 3 q.

Manure—
Colombo, 20 t. 5 c.

Paraffin Wax—
Durban, 3 t. 10 c. 3 q.
Venice, 14 3

Potassium Bichromate—
Madras, 6 t. 11 c.

Potassium Cyanide—
Tampico, 5 c. 2 q.
Fremantle, £7,082

Red Lead—
Melbourne, 5 t. 12 c.
Rangoon, 1 2

Sheep Dip—
Monte Video, £68
Buenos Ayres, 200

Soap—
Algoa Bay, 3 cs. 2 c.
Delagoa Bay, 2 t.
Transvaal, 1 2 1 q.

Soap Powder—
Rangoon, 10 cs. 2 c. 3 q.

Sodium Bichromate—
Rouen, 15 b. 3 c. 3 q.

Sodium Cyanide—
Chihuahua, £960
Pachuca, 2,548

Sulphuric Acid—
Monte Video, £20
Rangoon, 475

White Lead—
Delagoa Bay, 2 t.
Rangoon, 1 2 c. 1 q.

TYNE.

Week ending July 20.

Ammonium Carbonate—
Aalborg 1 t. 2 c. 1 q. 18 lb.

Antimony Regulus—
Hamburg 8 t.
St. Petersburg 2 10 c.
Rotterdam, 16 10

Barium Binoxide—
Hamburg 45 t. 3 q. 22 lb.

Bleaching Powder—
Amsterdam 5 t. 3 c. 10 lb.
Odense 2 14 6
Heisingfors 35 4 2 q. 18
Abo 1 9 3 24
Gothenburg 10 3 22
Christiania 2 8 1 14

Caustic Soda—
Antwerp 4 t. 18 c. 2 q. 18 lb.
Copenhagen 13 10 2
Helsingfors 1 11 3 24
Wasa 25 14 1 24
Wyborg 3 14 4
Manlyhito 8 2 2
Abo 2 5 3 26
Gothenburg 17 2 1 18
Christiania 5 16 8

Colours—
Copenhagen 2 t. 2 c. 2 q. 20 lb.

Copper Oxide—
Hamburg 1 t. 6 c. 2 q. 8 lb.

Litharge—
Christiania 10 c. 5 lb.

Red Lead—
Antwerp 11 t. 13 c. 21 lb.
Montreal, 2 15 1 q. 15
Aarhus, 1 8 22
Libau, 24 17 2 19
Haugesund, 10 3 2
Abo, 1 1 1 15
Christiania, 3 16 3 17

Rosin Oil—
Christiania, 14 lb.

Rosin Pitch—
Copenhagen, 1 t. 7 c. 13 lb.

Soda Crystals—
Rotterdam, 15 t. 3 c. 2 q.

Sodium Silicate—
Amsterdam, 2 t. 17 c. 1 q. 11 lb.

Sodium Sulphate—
Copenh'g'n, 350 t. 1 c. 1 q.

Sodium Sulphide—
Libau, 20 t. 2 q. 14 lb.

Sulphur—
Gothenburg, 50 t.

Tar Oil—
Copenhagen, 1 t. 12 c. 2 q. 7 lb.

Turpentine—
Montreal, 4 t. 15 c.

White Lead—
Antwerp, 4 t. 19 c. 2 q. 19 lb.
Montreal, 62 7 3 7
Libau, 8 10 18

GOOLE.

Week ending July 20.

Chemicals (*otherwise undescribed*)
Amsterdam, 33 cks.
Boulogne, 5 11 cs.
Copenhagen, 5
Delfziel, 171
Hamburg 400 bgs. 145 10 cs.
Rotterdam, 35 20

Coal Products (*otherwise undes.*)
Antwerp, 27 cks.
Boulogne, 27
Delfzyl, 278
Hamburg, 98

Coal Products—
Benzol
Boulogne, 24 cks. 23 dms.
Rotterdam, 76

Colours—
Antwerp, 2 pks. 32 cks. 10 dms. 8 cs.
Hamburg, 1 8

Dyestuffs (*otherwise undescribed*)
Antwerp, 1 ck.
Boulogne, 1
Rotterdam, 4 cs.

Manure—
Rotterdam, 470 bgs.

GRIMSBY.

Week ending July 17.

Chemicals (*otherwise undescribed*)
Hamburg, 42 cks. 1 cs.
Malma, 10
St. Thomas, 6 3 kgs.

Coal Products (*otherwise undes.*)
Dieppe, 102 brls.
Helsingborg, 5

Colours—
Dieppe, 10 brls.
Hamburg, 2 cks.
Malmo, 1 cs.
St. Thomas, 2

Dyestuffs (*otherwise undescribed*)
Dieppe, 1 cs.
Hamburg, 3
Rotterdam, 1

Manure—
Hamburg, 134 bgs.

Soap—
Hamburg, 102 cs.

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PRICES CURRENT.

FRIDAY, August 2, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	32	10	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	,,	0	0	4½
Antimony	per ton	47	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London,	per unit, per cwt.	0	0	1¾
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	87	10	0
,, Sulphate	,,	30	10	0
,, Oxide (copper scales)	,,	75	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	5	0
,, Litharge Flake (ex ship)	,,	23	10	0
,, Acetate (white)	,,	32	0	0
,, ,, (brown)	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	30	0	0
Linseed	,,	26	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	15	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	8
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags)	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	25	0	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	184	0	0
Zinc (Spelter)	,,	23	10	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

CHEMICAL ENGINEER.

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THE BRITISH ASSOCIATION.

SECTIONAL PROCEEDINGS.

SECTION B.—CHEMISTRY.

IN his address to the Chemical Section, the President, Professor A. Smithells, B.Sc., F.R.S., said :—

The year which has elapsed since the meeting of our Section at York has been eventful in the most melancholy of ways; the losses sustained by our science have been unparalleled. The passing bell seems to have tolled almost without intermission as one after another of our masters has been taken from us: in Russia, Mendeléef, Menschutkin, and Beilstein; in France, Berthelot and Moissan; in Holland, Bakhuis-Roozeboom. Whilst in some of these cases we may find consolation in contemplating a length of life and sustained activity beyond what we might have dared to expect, in others our regret is increased by the sense of untimeliness and of vanished hopes. I am tempted to speak of the work of such mighty men as Berthelot and Mendeléef, to dwell upon the discoveries by which they transformed the whole fabric of chemical science; but this is not the occasion on which to offer an estimate of the labours of those who have passed away. I can only say that in the bond of brotherhood which the pursuit of science establishes among the different nations of the earth we who are Englishmen feel and deplore these losses as our own. I must not omit to allude also, as I do with deep regret, to the death in our own country of two such ardent and fruitful workers as Cornelius O'Sullivan and Robert Warington.

These words were already in print when again we were called to mourn the loss of one of our greatest men, one who but a year ago was the subject of our special rejoicings, and whose vigour of body and youthfulness of spirit seemed to promise the long continuance of a noble and an extraordinarily fruitful life. We can at least feel thankful that William Henry Perkin lived long enough to learn in what honour and esteem his name was held, not only among his countrymen, but by all the chemists of the world, and by the leaders of those great industries of which he was justly acclaimed the founder. For more than a generation Sir William Perkin had been one of the most familiar figures at the meetings of this Section, and greatly shall we miss his gentle presence, his wise counsel, and his valued contributions.

THE CHEMISTRY OF FLAME.

I can, perhaps, best occupy your time to-day by attempting to give some account of the present state of the scientific subject to which I have paid most attention. The topic of flame, after a long period of repose, has aroused much interest during late years, and I think we may say that some considerable progress has been made in its elucidation, although in this, as in all other subjects of

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scientific inquiry, the more closely we scrutinise it the more impressed must we be with what still remains unknown.

One of the first questions that meet us in the study of flame is that of the temperature at which in any given case the phenomenon becomes evident. Here, I think, a great clarification of view has taken place. The old idea that there existed a fixed temperature at which inflammation suddenly took place cannot now be maintained, and the term "ignition temperature" has acquired a different meaning. It is now known that in a very great number of cases a mixture of two flame-forming gases, when gradually raised in temperature, will develop luminosity quite gradually, *pari passu*, with the chemical combination that is being induced. This phenomenon is, of course, known universally in connection with phosphorus, but it is not so widely known in connection with other combustible substances. There are some simple facts that seem as if they could never gain admission to text-books, and I do not think I have known more than a single chemical book that is not likely to leave a student under the impression that the phosphorescence of phosphorus is an almost unique phenomenon. I do not know how many times the independent discovery has been made that sulphur, arsenic, carbon disulphide, alcohol, ether, paraffin, and a whole host of other compounds, inorganic and organic, will phosphoresce as truly as phosphorus itself; that, in fact, phosphorescent combustion is the normal phenomenon antecedent to what we ordinarily call flame.

This is, after all, only in harmony with the general truth that chemical combination between two gases does not set in suddenly, but comes into evidence quite gradually as the temperature is raised from a point at which the action, if it occurs at all, is so slow as to be negligible. The increase in the rate of combination is, of course, very rapid as compared with the increase of temperature, a difference of about 10° C. serving to double it. The interval between the beginning of phosphorescence and the production of vigorous flames may therefore be very short. In the case of phosphorus this interval, being from 7° to 60° C., includes ordinary atmospheric temperatures; hence the phosphorescence of phosphorus is a phenomenon that could not well be overlooked. If the prevailing terrestrial temperature were below 7° C., at which, under normal air-pressure, the phosphorescence of phosphorus ceases, it is possible that this element might never have acquired its peculiar reputation; it would not have shone in the dark, and in lighting it with a taper the phosphorescent interval would have been passed over as quickly as is ordinarily the case in the ignition of sulphur, paraffin, and other common combustibles. To make phosphorescence apparent in these last cases it is necessary to take special care to heat up a mixture of the combustible gas and air gently, and to maintain it at a temperature approaching, but not quite reaching, that of ignition. There is no simpler way than that used by Sir William Perkin, who brought the combustible substance near to, or in contact with, a massive metal ball previously heated to the suitable temperature.

The change from phosphorescence to ordinary flame is not sudden, but the appearance of ordinary flame is the end point of a continuous, though rapid, development. This end point is the temperature of ignition. What, then, determines the temperature of ignition? The answer to this question has been given with characteristic conciseness by Van't Hoff as "the temperature at which the initial loss of heat due to conduction, etc., is equal to the heat evolved in the same time by the chemical reaction."

We may obtain a clear idea of the meaning of temperature of ignition by supposing a combustible mixture of gases such as that of air and the vapour of carbon disulphide to issue through an orifice into an indifferent atmosphere. If we surround the orifice by a ring of platinum wire, which is gradually heated up by a current of electricity, a flame will gradually make its appearance. If, as soon as this is observed, the heating of the wire by the current be discontinued, the flame will disappear; it is, in fact, not self supporting, but depends on the accessory supply of heat through the electrically heated wire. If now we raise the ring to a higher temperature we shall get a brighter flame, owing to an increased rate of chemical action, and at last we shall reach a point where it is possible to cut off the electric current without causing at the same time the extinction of the flame. This is the true temperature of ignition, the temperature at which the reaction proceeds at a rate just sufficient to overbalance the loss of heat by radiation, conduction, and convection from the burning layer of gases, so that the next layer is put in the same state, and steady combustion proceeds.

Phosphorescence has been spoken of as degraded combustion, and, though literally the appellation is correct, I think it is liable to be misunderstood. Again, it is often supposed that phosphorescence is necessarily associated with the formation of incompletely oxidised products. This may be the case in a chemical system which is capable of affording different products at different temperatures, but it is not an essential feature; the phosphorescent combustion of sulphur, for example, affords nothing but sulphur dioxide.

Temperature of ignition is, then, neither a temperature at which combination suddenly begins nor one dependent solely on the nature of the combining gases. It will vary with the proportion in which the gases are mixed and with their pressure and other circumstances. Notwithstanding the simplicity of this conception, it must be admitted that there are many obscure facts connected with the ignition of gases. The inflammability of gaseous mixtures is not necessarily greatest when they are mixed in the proportions theoretically required for complete combination; the influence of foreign gases does not appear to follow any simple law; the presence of a very small quantity of a foreign gas may exercise a profound influence on the ignition temperature, as in the case of the addition of ethylene to hydrogen. When a mixture of methane and air is raised to its ignition temperature, a sensible interval (about 10 seconds) elapses before inflammation occurs. These facts are cognate to others which have increased upon us so abundantly in connection with the influence of moisture on chemical change. The study of the oxidation of phosphorus in particular brings us among rocks and shoals. Apart from the influence of moisture on the combination, we have the limitation of the process by a certain tension of oxygen and by minute quantities of a vast number of chemical substances, among which, in spite of much labour, no other common bond can be found. We do not know what oxide is initially formed in the oxidation, and the existence of the oxides P_4O and P_2O is as confidently disputed as it is affirmed. There is some reason for believing that the phosphorescence connected with phosphorus succeeds the formation of one oxide and accompanies the formation of another. The state of the oxygen, whether atomic, ionic, or molecular, which acts on phosphorus, the induced oxidation of other substances, the ionisation of air accompanying the oxidation—these are all matters concerning which there exists a bewildering literature that hangs over us like a cloud. The whole of my address would, in fact, not suffice for a summary of the state of our ignorance about the oxidation of phosphorus. The subject, simple as it appears at first sight, is really involved with a vast number of unsolved chemical problems the elucidation of which would throw much light on chemical action in general. I may, perhaps, bequeath the topic to some successor to this chair as one which may serve to illustrate the advance of knowledge since these present days of darkness.

The structure of flames has always been regarded as dependent upon the chemical changes taking place in the differentiated regions, but until recent times little attention has been given to any question beyond the cause of the bright luminosity of hydrocarbon flames. In a flame such as that of hydrogen or carbon monoxide, where we have some reason to suppose that

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the same kind of chemical transaction is taking place throughout the region of combustion, we should not expect to find a differentiation of structure, and, as a matter of fact, we do not find any. Erroneous ideas have gained currency from the use of impure gases, and hydrogen is still described as burning with a pale blue flame, although Stas long ago stated that if the gas is highly purified, and the air freed from dust, the flame even in a dark room can only be discovered by feeling for it; a fact consistent with the line spectrum of water lying wholly in the ultra-violet. The presence of a very small quantity of free oxygen in carbon monoxide destroys the perfect simplicity of the single shell of blue flame with which the purified gas burns, and in other flames small quantities of gaseous impurities or of atmospheric dust give rise to features of structure and halos which have been frequently supposed to pertain to the flame of the combining gases. The fringe of a flame in air may be often tinged by the presence of oxides of nitrogen.

No flame better illustrates the relation of structure to chemical processes than that of cyanogen, where the two steps in the oxidation of the carbon are clearly marked out in colour. Apart from hydrocarbon flames, very few others have been carefully explored from this point of view. There is, unfortunately, no gas composed of two combustible gaseous elements; and, though such gases as the hydrides of phosphorus and sulphur do not fall far short of this, the experimental difficulties of an exact exploration of their flames are very great. We are thus prevented from studying the flame of a composite combustible in its simplest form.

The flames of hydrocarbons have naturally been the subject of most frequent investigation. The use of single hydrocarbons instead of the mixtures present in coal-gas and other common combustibles has simplified the study considerably. Two problems stand out prominently: one is to trace the steps in the oxidation of the hydrocarbon, the other to account for the bright patch of yellow luminosity. With regard to the question of the luminosity, I do not think there is any longer doubt about its being due essentially to the separation within the flame of minute solid particles of what is practically carbon. The separation seems to be adequately explained by the high temperature of the blue burning walls of the flame, which decomposes the unburned hydrocarbon within. In a similar way arsenic and sulphur and phosphorus are liberated within flames of their hydrides; but these elements, being volatile, do not appear as solids unless a cold object be placed within the flame. In the case of the hydride of silicon the liberated element at once oxidises to form the solid non-volatile oxide, which gives a bright glow.

The mode in which a hydrocarbon yields carbon by the application of a high temperature has been the subject of experiment and of hypothesis; but neither the view of Berthelot, that the carbon results from a continuous coalescence of hydrocarbon molecules with elimination of hydrogen, nor that of Lewes, according to which the formation and sudden decomposition of acetylene is the essence of the phenomenon, appears to me to be in harmony with the experimental facts; and I am not aware that either view has secured any support from other workers in this field. It is certainly not easy to ascertain experimentally the changes undergone by a single hydrocarbon as its temperature is raised, and at the last it may be objected that the course of events in contact with the solid walls of a containing vessel is not necessarily the same as that within the gaseous envelope of a flame. I am glad to think that there is promise of further light on this subject from the work of Professor Bone.

The course of oxidation of hydrocarbons has been the subject of very careful and fruitful study. The old view that a selective or preferential oxidation of the hydrogen always took place, that with a restricted supply of oxygen the hydrogen was oxidised and the carbon set free, is, I think, no longer maintained by anyone who has studied the question. The explosion of ethylene with its own volume of oxygen, which leaves us with practically all the carbon oxidised and all the hydrogen free, is fatal to this view. Again, when hydrocarbons are burned in a flame with a restricted supply of air, as is the case in the inner cone of the flame of a well-aerated Bunsen burner, there is clearly no separation of solid carbon, and the products of combustion when withdrawn and analysed disclose the presence of much free hydrogen and no unoxidised carbon. In describing this experimental fact I have spoken of it as the preferential oxidation of carbon. I have always thought it pedantic to quarrel with that expression; for, in speaking of a chemical transaction, we usually include only a description of the initial and final states of combination. I should be sorry, however, to detach the expression from the facts it describes and to exalt it into a general doctrine. That would be quite inadmissible, and, if there is any danger of misunderstanding, it would be better to avoid using the expression.

The admirable researches carried out in the University of Manchester by Professor Bone and his collaborators have afforded most valuable information as to the oxidation of hydrocarbons at temperatures extending from those of incipient oxidation up to the highest ones that prevail in a flame. According to Professor Bone, the oxidation of a hydrocarbon involves nothing in the nature of a selective or preferential oxidation of the carbon or the hydrogen; but it occurs in several well-defined stages, during which oxygen enters into and is incorporated with the hydrocarbon molecule, forming oxygenated intermediate products, among which are alcohols and aldehydes. The reaction, just referred to, between ethylene and an equal volume of oxygen is, according to Professor Bone, to be represented by this scheme:

$$\begin{matrix} CH_2 \\ \vdots \\ CH_2 \end{matrix} \longrightarrow \begin{matrix} CH.OH \\ \vdots \\ CH_2 \end{matrix} \longrightarrow \begin{matrix} CH.OH \\ \vdots \\ CH.OH \end{matrix} \longrightarrow \begin{matrix} H_2C:O \\ | \\ H_2C:O \end{matrix} \longrightarrow \begin{matrix} H_2+CO \\ | \\ H_2+CO \end{matrix}$$

There can be no question about the facts on which this scheme is based, and they are a new and important addition to knowledge.

It is a great aid to the study of chemical changes, when we can resolve them into stages, whether or not these stages be realisable under certain experimental conditions. In this way we can get a clear view of the relationship between the action under one set of circumstances to the action under another set; and in this way also we can often establish rational links between reactions which at first sight seem quite disconnected. Intermediate reactions are much used to elucidate cases of contact action, and in the processes of organic chemistry they are almost universally assumed.

I am far from wishing to disparage these practices, but I think it important that we should realise how far we are dealing with convenient devices and how far with ascertained facts. The isolation of an intermediate product under one set of circumstances is in itself no proof that this product is transitorily formed when the reaction is proceeding under another set of circumstances; and if we were to assume generally that because we can represent a chemical transaction as if it were due to a successive construction and destruction of a series of molecular edifices it actually does take such a course, we should, I think, be making the same kind of mistake as to suppose that in the application of two differently directed forces to a body at rest, the body will move successively in the direction of each force instead of moving immediately in the direction of their resultant. I know that I may be considered hypercritical, and perhaps obstinate, in this matter; but I wished to state the reasons that prevent me from accepting entirely the interpretation which Professor Bone has given to his experimental results, and to draw attention to a question of general importance that has not, I think, received the attention it deserves.

The mode of burning of carbon, whether in the free state or as a constituent of a compound, is not at all easy to determine; and notwithstanding many investigations, among which must be specially mentioned those of Professor H. B. Dixon and his collaborators, so simple-looking a question as whether carbon forms carbon monoxide by directly uniting with oxygen, or only by reducing carbon dioxide, is still a matter of uncertainty.

Our knowledge concerning the question of flame temperatures has been much improved in recent times, thanks mainly to the admirable work of M. Le Chatelier. The well-known memoir of Mallard and Le Chatelier on the explosion of gases supplied the data which first permitted of a moderately exact calculation of flame temperatures, and the perfection of a thermo-couple by M. Le Chatelier gave us the first instrument that could be used directly for making a satisfactory measurement. The uncertainty connected with this subject may be well illustrated by quoting the temperatures that have at different times been ascribed to the flame of coal-gas when burnt in a Bunsen burner, where we have had values varying from 1,230° to 2,350° C.

The question of calculating the temperature attained during combustion by reference to calorimetric values, specific heat, dissociation, and other considerations is to form the subject of a joint discussion with Section G during the present meeting, so that I shall not here enlarge upon it.

With regard to the use of thermo-couples, I may remark that the practical difficulties have been successfully met. The chief difficulty is, of course, to secure that the thermo-junction attains as nearly as possible the temperature of the region in which it is immersed. As ordinary flames consist of thin shells of burning gases, on either side of which there is a very rapid fall

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of temperature, it is necessary to use thin wires, and to dispose them so that there is no appreciable drain of heat from the junction. By using wires of different gauge for the couples it is possible by extrapolation to arrive at a temperature for a couple of infinitely small cross-section, and it is also possible to make a correction for the superior radiating power of the couple as compared with the flame-gases. Without this last correction a maximum temperature of 1,770° was obtained for the Bunsen flame by Waggener in Germany, and 1,780° by White and Traver in America. Correcting for radiation, Berkenbusch found 1,830° as the maximum temperature.

M. Féry, by an ingenious application of his beautiful optical pyrometer to a flame containing sodium, gives 1,871° as the highest temperature of the flame of a Bunsen burner burning coal-gas.

The consideration of flame temperatures has become of increasing importance in the arts, owing to the use of the Welsbach mantle as a means of deriving light from coal-gas. The great improvements which have been made in the efficiency of atmospheric burners depend primarily on the fact that the smaller the external surface we can give to a flame consuming gas at a fixed rate the higher must be the average temperature; and since the emission of light from a mantle is proportional to a high power of the absolute temperature, a small increase of temperature is of great effect on luminosity.

The acetylene-oxygen flame in which a temperature of about 3,500° prevails, not very different from that of the electric arc, is the hottest of the hydrocarbon flames, and finds some important practical uses.

I have already said something about the luminosity of flames so far as relates to the separation and glow of solid carbon. But there remains the more general question of the luminosity of flames containing nothing but gases. The older explanation of the emission of light from combining gases said no more than that the energy liberated during the reaction and appearing as heat raised the product to incandescence—that is to say, so increased the velocity of its molecules and the violence of their collisions that vibrations were set up whose wave-lengths lay within the limits of visible radiation. This explanation has long been questioned, and there is now, I think, a very general agreement that it will not suffice. The average temperature, in fact, prevailing in a flame, if attained in the product of combustion by the supply of heat from outside, does not suffice to make that substance luminous. We are therefore thrown back upon the conclusion that the generation of light in a flame is not a consequence, though it is an accompaniment, of the elevation of temperature. The question now is, Can we go any further? To do this we are led to consider individual molecular transactions instead of statistical averages, and the view presents itself that the combining atoms may, in losing their chemical energy, form directly systems of independent vibration where the radiation is such as to fall within the limits of visibility. If we picture such vibrating systems momentarily formed, it is easy to see that by their collision one with another they may acquire in a secondary way increased translational motion, and so lead to a state of things where the greater part of their energy is degraded in the form of heat. The high temperature of a flame would then be a consequence rather than a cause of its light.

This subject of the mechanism of luminosity, however, like so many others, has now become involved with the theory of electrons, and a chemist may be excused if he hesitates to pursue the subject further. Some years ago I called attention to the scantiness of our knowledge of the chemical changes that take place when metallic salts are used in flames for the production of spectra. Though there was general agreement that, for example, the yellow flame produced by common salt was due to the liberation and glow of metallic sodium, there was no agreement as to how the sodium was set free.

Arrhenius, pursuing the analogy which exists between the laws governing matter in the gaseous state and in the state of dilute solution, had previously been led to the view that the electrical conductivity of flames containing salt-vapours was due to ionisation of the salt throughout the volume of the flame. It appeared possible, therefore, that the luminosity might be ascribed likewise to the metal separated in the ionic state.

Experimental investigation undertaken with a view to elicit information on this subject seemed to favour the view that the metal was reduced by chemical processes, and that it glowed in the un-ionised condition. Evidence seemed to point to the conclusion that, for example, when common salt is introduced into the flame of coal-gas the sodium chloride yields sodium by the conjoint action of steam and reducing gases; when liberation of the metal was prevented by adding a large quantity of hydrochloric acid to the flame the glow disappeared, but the conductivity was not always diminished. The fact that sodium salts, including the chloride, impart their characteristic glow to the flame of cyanogen and to other flames in which water is absent leads to some difficulty in finding a chemical explanation, and it must be admitted that a direct thermal dissociation of an alkaline halide or oxide is not out of the question. The interval of detachment of the metallic atom may be exceedingly brief, but it must be remembered that even so short a time as the interval between the molecular encounters in a gas at a high temperature is still sufficient for the emission of thousands of undisturbed characteristic vibrations. The experiments to which I have alluded have been followed up with great industry and success by Professor H. A. Wilson, who has added much to our knowledge of the electrical condition of the flames containing vaporised salts; but the question of the condition of the luminous gas is still far from being settled. Very interesting and important investigations have been carried out by Lenard, who has shown that the stream of luminous vapour produced from a sodium salt in a Bunsen flame is deflected in an electric field in such a way as to indicate that the vapour is positively charged; but he gives reason for believing that the charged condition is intermittent with the neutral condition. The lines in the spectrum of an alkali metal are divisible, as is well known, into distinct groups or series, in each of which the oscillation frequencies corresponding with the lines are in a definite mathematical relationship. The principal series, which include the lines seen individually as such in ordinary flame spectra, are, according to Lenard, due to the electrically neutral atoms. In a salted spirit flame, and in other flames of low temperature where only lines of the principal series are represented, the stream of luminous gas does not behave in an electric field as if it were charged. In the flame of coal-gas burnt in a Bunsen burner the salt-vapour gives, in addition to the distinct lines of the principal series, diffuse bands of luminosity on the dark background, which, according to Lenard, represent the undeveloped subordinate series; and it is the atoms emitting these series that are deflected in the electric field. It is inferred, therefore, that the light in a salted Bunsen flame comes from different groups of centres of emission—the principal series from the neutral atom, and the lines of the first, second, and third subordinate series from atoms which have lost respectively one, two, and three electrons. Lenard goes further, and shows that the salt-vapour in a Bunsen flame, as in the flame of the electric arc, emits these different kinds of radiation from different structural regions; thus the vapour at the edge of the flame is electrically neutral and gives only the lines of a principal series.

The negative electricity in a salted flame would, according to Lenard, be disembodied, and recent experiments by Gold confirm the view that the negative carrier in flames is a free electron. In connection with this subject I ought to allude to an investigation by Tufts, which seems to throw some doubt on the conclusions which were drawn from the experiments made by Professor Wilson, Dr. Dawson, and myself; and I must also mention an important contribution to the subject recently made by Professor Hartley, in which considerable light is thrown upon the chemical changes undergone by compounds of the alkaline earth metals when they are introduced into flames, and upon the relation of these changes to the various spectral features. I am afraid, however, that it would be wearisome if I were to prolong this summary, and I must be content to leave it without doing justice to those who are engaged upon the work. The subject is obviously one of fundamental importance in relation to spectrum analysis, and my own slight connection with it has only strengthened my opinion that there is still a great deal connected with the genesis of spectra that requires the attention of the chemist even more than that of the physicist. Spectrum analysis arose under the joint influence of Bunsen and Kirchhoff, and I think its problems still call for more combined work on the part of chemist and physicist than has latterly been the custom.

The concluding passages of the address were devoted to a general consideration of the progress of chemical science. We hope to reproduce this in our next issue.

SECTION G.—ENGINEERING.

In the Engineering Section, Professor Silvanus P. Thompson, D.Sc., F.R.S., prefaced his address by a reference to the severe loss which the profession has so recently sustained by the death of Sir Benjamin Baker, and mention was also made of some of the more important achievements of the celebrated

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engineer. A memoir, entitled "A Theoretical Investigation into the Most Advantageous System of Constructing Bridges of Great Span," in which was set forth the theory of the cantilever bridge (afterwards practically applied in the construction of the Forth Bridge) the building of the great dam across the Nile at Assouan, and his work in connection with the working of the internal railways of London (notably the later developments of deep-level tubes) would, the President said, always serve to perpetuate the memory of Sir Benjamin Baker.

Professor Thompson opened his address with a somewhat rosy account of the development of engineering in relation to the material resources of civilisation. Much that he said about the social and industrial conditions at different periods of history may be debatable, yet his statement of the position and importance of the engineer may generally be accepted :— "We must not delude ourselves with imagining that the happiness and welfare of mankind depend only on its material advancement ; or that moral, intellectual, and spiritual forces are not in the ultimate resort of greater moment. But if the inquiry be propounded what it is that has made possible this amazing material progress, there is but one answer that can be given—science. Chemistry, physics, mechanics, mathematics, it is these that have given to man the possibility of organising this tremendous development, and the great profession which has been most potent in applying these branches of science to wield the energies of nature and direct them to the service of man has been that of the engineer. Without the engineer how little of all this activity could there have been ; and without mathematics, mechanics, physics, and chemistry, where were the engineer ? "

THE INFLUENCE OF ABSTRACT SCIENCE UPON THE CONCRETE.

The interaction of abstract science and its application—in other words the influence of the abstract upon the concrete, was the subject of the address, and it was illustrated by a lucid and interesting account of the development of the electric motor. The idea that the progress of science ought to be an end in itself ; that scientific research ought to be pursued without regard to its immediate applications ; that the importance of a discovery must not be measured by its apparent utility at the moment—an idea which lay at the root of all Faraday's works—was a commonplace which, the lecturer said, could be admitted, yet it was true that the temperament of the discoverer counted for something. If so, then, as there are scientific persons who simply cannot work without the definiteness of aim that is given by a practical problem awaiting solution—Willanses as well as Regnaults, Whitworths as well as Poissons—then this idea needed modifying, and the world needed both types of investigator as well as the man who, making no claim to original discovery, by patient application and intelligent skill turns to industrial fruitfulness the results already attained in abstract discovery.

The reflex influence of industrial applications was shown to be a potent force in scientific progress by the invention of the telescope and the desire to perfect it, and their result in the work in optics of Newton, Huygens and Euler. It is well known that the quest of the Philosopher's Stone and the Elixir of Life laid the foundations of chemistry. Photography has immeasurably assisted meterology, ethnology, astronomy, zoology, and spectroscopy. The steam engine compelled attention to the laws of heat, while the mariner's compass gave rise to the wonderful structure of electrical science. The illustration from the discovery of the electric telegraph was treated at some length as furnishing a very striking example of this reflex influence. It was shown that the inventions of Cooke and Wheatstone in England, and of Morse and Vail in America, which were the outcome of the researches of Volta, Oersted, Sturgeon, Henry, and a host of less famous workers, gave a powerful incentive to a thorough investigation for a rational system of electrical and electromagnetic units. Had there been no telegraph industry to force electrical measurement and theory to the front, there would probably have been no work of Clerk Maxwell, nor the far-reaching researches of Hertz, nor wireless telegraphy. Lord Rayleigh maintained that the invention of the telephone compelled electricians to understand the principle of self-induction. In considering this reflex influence of the industrial applications upon the progress of pure science it is of some significance to note that for the most part this influence is entirely helpful. There may be sporadic cases where industrial conditions tend temporarily to check progress by imposing persistence of a particular type of machine or appliance ; but the general trend is always to help to new developments. The reaction aids the action ; the law that is true enough in inorganic conservative systems, that reaction opposes the action, ceases here to be applicable, as indeed it ceases to be applicable in a vast number of organic phenomena. It is the very instability thereby introduced which is the essential of progress. The growing organism acts on its environment, and the change in the environment reacts on the organism—not in such a way as to oppose the growth, but so as to promote it. So is it with the development of pure science and its practical applications.

In further illustration of this principle, reference was made to the immense effect which the engineering use of steel has had upon the study of the chemistry of the alloys. And the study of the alloys has in turn led to the recent development of metallography. Through the study of the intimate structure of metals, prompted by the needs of engineers, we are within measurable distance of arriving at a knowledge of the secret of crystallogenesis. Everything points to the probability of a very great and rapid advance in that fascinating branch of pure science at no distant date.

THE DEVELOPMENT OF THE ELECTRIC MOTOR.

There is, however, one last example of the interaction of science and industry which may claim closer attention. In the history of the development of the electric motor one finds abundant illustration of both aspects of that interaction. Going back to the year 1821, when Faraday, after studying the phenomena of electromagnetic deflexion of a needle by an electric current (Oersted's discovery), first succeeded in producing continuous rotations by electromagnetic means, the first signs of an electric machine are to be noted. This simple apparatus consisted of a piece of suspended copper wire, carrying a current from a small battery, and dipping at its lower end into a cup of mercury, rotated continuously around the pole of a short bar-magnet of steel placed upright in the cup. This apparatus was the merest toy ; nevertheless it demonstrated the essential principle, and suggested further possibilities. Two years later, Barlow, using a star-wheel of copper, pivoted so that the lowest point of the star should make contact with a small pool of mercury, found that the star-wheel rotated if a current was sent through the arm of the star while the arm itself was situated between the poles of a steel horse-shoe magnet. Shortly afterwards Sturgeon improved the apparatus by substituting a copper disc for the star-wheel. The action was the same. A conductor, if placed in a magnetic field, is found to experience a mechanical drag, which is neither an attraction nor a repulsion, but a lateral force tending to move it at right angles to the direction of flow of the current and at right angles to the direction of the lines of the magnetic field in which it is situated. Two years later came the announcement by Sturgeon of the invention of the soft-iron electromagnet, one of the most momentous of all inventions, since upon it practically the whole of the constructive part of electric engineering is based. For the first time mankind was furnished with a magnet the attractive power of which could be increased absolutely indefinitely by the mere expenditure of sufficient capital upon the iron core and its surrounding copper coils, and the provision of a sufficiently powerful source of electric current to excite the magnetisation. Furthermore, the magnet was under control, and could be made to attract or to cease to attract at will by merely switching the current on or off ; and, lastly, this could be accomplished from a distance, even from great distances away. How slowly the importance of this discovery was recognised is now a matter for astonishment. To state that Sturgeon died in poverty twenty-six years later is sufficient to indicate his place among the unrequited pioneers of whom the world is not worthy. Six years elapsed, and then there came a flood of suggestions of electric motors in which was applied the principle of intermittent attraction by an electromagnet. In a masterly memoir, Jacobi, from the results of some experiments, laid down a few years later the theory of electric motive power. But in the intervening period, in 1831, Faraday had made the cardinal discovery of the mechanical generation of electric currents by magneto-electric induction, the fundamental principle of the dynamo, a discovery not made use of till some thirty years later, when magneto-electric machines were made of a sufficient size to be of practical service in telegraphy, although none were built of a sufficient power to furnish a single electric light until about the year 1857. In the meantime, in America, Page had constructed a machine which had an iron plunger drawn by electromagnetic attraction into a hollow coil of copper wire, thereby driving a shaft and fly-wheel through the intermediate action of a connecting-rod and crank. Page's was, in fact, an electric engine, with 2-foot stroke, single-acting, of between 3 and 4 horse-power, and according to him consuming zinc at the rate of 3 lb. per H.P.

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Upon the state of development of electric motors fifty years ago information may be gleaned from an exceedingly interesting debate at the Institution of Civil Engineers upon a paper read on April 21, 1857, "On Electromagnetism as a Motive Power," by Mr. Robert Hunt, F.R.S. In this paper the author states that there does not appear to be any nearer approach to a satisfactory result than there was thirty years ago. He admits that electro-magnets may be constructed to give any desired lifting power; but he finds that the attractive force on the iron keeper of a magnet of his own, which held 220 lbs. when in contact, fell to 36 lbs. when the distance apart was only one-fiftieth of an inch. To this rapid falling off of force, and to the hardening action on the iron of the repeated vibrations due to the mechanical concussion of the keeper, he attributed the small power of the apparatus.

In the discussion which followed, several men of distinction took part. Professor William Thomson, of Glasgow (Lord Kelvin), wrote, referring to the results of Joule and Scoresby: "These facts were of the highest importance in estimating the applicability of electromagnetism, as a motive power, in practice; and, indeed, the researches alluded to rendered the theory of the duty of electro-magnetic engines as complete as that of the duty of waterwheels was generally admitted to be. Among other conclusions which might be drawn from these experiments was this: that, until some mode of producing electricity as many times cheaper than that of an ordinary galvanic battery as coal was cheaper than zinc, electro-magnetic engines could not supersede the steam engine." Professor Tyndall agreed with the last speaker, but suggested that there might be some way of mitigating the apparent diminution of power due to the induction of opposing electromotive forces in the machine itself. In short, the most eminent engineers in 1857 condemned the idea of electric motive power as unpractical and commercially impossible.

Fifty years have passed. Hunt, Grove, Smee, Tyndall, Cowper, Joule, Bidder, Stephenson have long passed away. Kelvin remains the sole and honoured survivor of that remarkable symposium. But the electric motor is a gigantic success. It may be asked what has produced this great change. The answer may be given in terms of the action and reaction of pure and applied science. Pure science furnished a discovery; industrial applications forced its development; that development demanded further abstract investigations. The development of the dynamo for electrotyping and electric light produced the motor. Antonio Pacinotti, in 1864, laid down the principle of reversibility of action in a motor. From 1860 to 1880 the dynamo was being developed by Gramme, Wilde, Siemens, and Crompton, and proved a better motor than the earlier machines. Latterly the question of efficiency has been fully treated. The 50% efficiency idea of the eighties has gone, and now it can be said that the dynamo, within its class, is a more perfect machine than the steam engine.

The final portion of the address dealt with the education and training of engineers. Inter-play of action and reaction, the lecturer said, make for the development of the individual engineer. If properly trained, in him pure theory becomes an aid to sound practice; and practical applications are continually calling him to resort to his theories. Progress in this direction has extinguished the so-called practical man and the pure theorist. Here the lecturer digressed into the consideration of the mathematician and his relation to engineering practice. The idea conveyed may be epigrammatically stated as, "Better a living Whitworth scholar than a dry-as-dust Cambridge wrangler."

Some remarks on pupil apprenticeship, which bought the address to a close, are worth recording:—"One evidence of the wholesome change of opinion that is springing up concerning the training of engineers is the abandonment of the system of taking premium pupils into works with no other test or qualification than that of the money-bag. Already many leading firms of engineers have been finding that the practice of taking sons of wealthy parents for a premium does not answer well, and is neither to their own advantage nor in many cases to that of the "pupil," whom it is nobody's particular business in the shops to train. Premium pupilage is absolutely unknown in the engineering firms of the United States or on the Continent of Europe. The firms who have abandoned it are finding themselves better served by taking the ablest young men from the technical schools and paying them small wages from the first, while they gain experience and prove themselves capable of good service. Messrs. Yarrow and Co. have led the way with a plan of their own, having three grades of apprenticeship, admission to which depends upon the educational abilities of the youths themselves. Messrs. Siemens have adopted a plan of requiring a high preliminary training. The Daimler Motor Company has likewise renounced all premiums, preferring to select young men of the highest intelligence and merit. Messrs. Clayton and Shuttleworth have quite recently reconstructed their system of pupil-apprenticeship on similar lines. The British Westinghouse Company and the British Thomson-Houston Company have each followed an excellent scheme for the admission of capable young men. Even the conservatism of the railway engineers shows signs of giving way; for already the Great Eastern Railway has modernised its regulations for the admission of apprentices. What the engineering staffs of the railway companies have lost by taking in pupils because of their fathers' purses rather than for the sake of their own brains it is impossible to gauge. But the community loses too, and has a right to expect reform."

SECTION A.—MATHEMATICAL AND PHYSICAL SCIENCE.

CONTINENTS AND OCEANS.

The President of this Section, Professor A. E. H. Lore, M.A., D.Sc., F.R.S., devoted his address to the consideration of the origin of continents and oceans. He said that if the ocean were to be dried up, the earth would still have a shape. What would it be? and why should the earth have that shape rather than some other? The key of the problem was put into our hands four years ago by Jeans, in his theory of gravitational instability. If there are any differences of density in different parts of a gravitating body, the denser parts attract with a greater force than the rarer parts, and thus more and more of the mass tends to be drawn towards the parts where the density is in excess, and away from the parts where it is in defect. In every gravitating system there is a tendency to instability. In a body of planetary dimensions this tendency, if it were not checked, would result in a concentration of the mass either towards the centre or toward some other part. But concentration of the mass means compression of the material, and it cannot proceed very far without being checked by the resistance which the material offers to compression. There ensues a sort of competition between two agencies: gravitation, making for instability; and the elastic resistance to compression, making for stability. Such competing agencies are familiar in other questions concerning the stability of deformable bodies. A long thin bar set up on end tends to bend under its own weight. A steel knitting-needle a foot long can stand up; a piece of thin paper of the same length would bend over. In order that a body may be stable in an assigned configuration there must be some relation between the forces which make for instability, the size of the body, and the resistance which it offers to changes of size and shape. In the case of a gravitating planet we may inquire how small its resistance to compression must be in order that it may be unstable, and, further, in respect of what types of displacement the instability would manifest itself. If we assign the constitution of the planet, the inquiry becomes a definite mathematical problem. The greatest difficulty in the problem arises from the enormous stresses which are developed within such a body as the earth by the mutual gravitation of its parts. The earth is in a state which is described technically as a state of "initial stress." In the ordinary theory of the mechanics of deformable bodies a body is taken to be strained or deformed when there is any stress on it, and the strain is taken to be proportional to the stress. This method amounts to measuring the strain or deformation from an ideal state of zero stress. If the ideal state is unattainable without rupture or permanent set or overstrain, the body is in a state of initial stress. The commonest example is a golf ball made of indiarubber tightly wound at a high tension. Now the problem of gravitational instability can be solved for a planet of the size of the earth on the suppositions that the density is uniform and the initial stress is hydrostatic pressure. If the resistance to compression is sufficiently small the body is unstable, both as regards concentration of mass towards the centre and as regards displacements by which the density is increased in one hemisphere and diminished in the other.

The shape of the earth is also influenced by another circumstance. We know that at one time the moon was much nearer to the earth than it is now, and that the two bodies once rotated about their common centre of gravity almost as a single rigid system. The month was nearly as short as the day, and the moon was nearly fixed in the sky. The earth must have then been drawn out towards the moon, so that its surface was more nearly an ellipsoid with three unequal axes than it is now. The primary effect of the ellipsoidal condition upon the distribution of continent and ocean would be to raise the surface above the

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ocean near the opposite extremities of the greatest diameter of the equator. But, again, owing to the eccentric position of the centre of gravity, there would be an important secondary effect. The gravitational attraction of an ellipsoid differs from that of a sphere, and it may be represented as the attraction of a sphere together with an additional attraction. If the density was greater in one hemi-ellipsoid than in the other, the additional attraction would produce a greater effect in the parts where the density was in excess, and the result, just as in the case of rotation, would be a furrowing of the surface. It has been proved that the formula for this furrowing also is expressed by a spherical harmonic of the third degree.

Seismic and volcanic activities constitute the mechanism of the process of change. Their effect is cumulative, and, for this reason, they tend in the course of ages to transform the earth's shape from one definite type to another. The diminishing speed of the earth's rotation is another cause of change that appears to produce an alternating rather than a cumulative effect. The effect produced would be that of long periods during which the ocean would advance towards Arctic and Antartic regions, interrupted by shorter periods in which it would tend to retreat towards the equator.

SECTION L.—EDUCATIONAL SCIENCE.

THE APPLICATION OF SCIENTIFIC METHODS TO EDUCATIONAL PROBLEMS.

In the Educational Science Section, the President, Sir Philip Magnus, M.P., said that year by year new facts were recorded in different branches of inquiry, on which fresh conclusions could be based. The progress of past years, whether in Chemistry, Physics, or Biology, could be stated. Could the same be said, and in the same sense, of Education? It was true that the area of educational influence was being constantly extended. Schools of every type and grade multiplied, but was there any corresponding advance in our knowledge of the principles that should govern and determine our educational efforts, or which could justify us in describing such knowledge as science?

If we took science to mean organised knowledge, if we were to test the claim of any body of facts and principles to be regarded as science by the ability to predict, which the knowledge of these facts and principles would confer, could we say there existed an organised and orderly arrangement of educational truths, or that we could, logically, by any causative sequence, connect training and character either in the individual or in the nation? Could we indicate, with any certainty, the effects on either the one or the other of any particular scheme of education that might be provided? It was very doubtful whether we could say that educational science was, as yet, sufficiently advanced to satisfy these tests.

But although education might not yet fulfil all the conditions that justify its claim to be regarded as a science, we are able to affirm that the methods of science, applicable to investigations in other branches of knowledge, were equally applicable to the elucidation of educational problems. To have reached this position was to have made some progress, for we should see that if we are to succeed in arriving at fixed principles for guidance in determining the many difficult and intricate questions that arise in connection with the provision of a national system of education, or the solution of educational problems, we must proceed by the same methods of logical inquiry as we should adopt in investigating any other subject matter.

"Notwithstanding the progress we have made, it cannot be denied," continued Sir Philip, "that, in this country, there still exists a large amount of educational unrest, of dissatisfaction with the results of our efforts during the last thirty years. This is partly due to the fact that there is much loose thinking and uninformed expression of opinion on educational questions. No one knows so little as not to believe that his own opinion is worth as much as another's on matters relating to the education of the people. In this way statements, the value of which has not been tested, pass current as ascertained knowledge, and very often ill-considered legislation follows. In this country, too, the difficulty of breaking away from ancient modes of thought is a great drawback to educational progress. Suggestions for moderate changes, which have been most carefully considered, are deferred and decried if they depart, to any great extent, from established custom, and the objection to change very often rests on no historical foundation. Occasionally, too, the change proposed is itself only a reversion to a previous practice, which was rudely broken by thoughtless and unscientific reformers. The opposition which was so long raised to the establishment of local universities was largely due to want of knowledge on the subject; and certainly the creation, some seventy years ago, of a teaching University in London was actually hindered through a mere prejudice, which broader views as to the real purposes of University teaching and fuller information on the course of University development would have removed.

There never was a time perhaps when it was more necessary than now that education should be regarded dispassionately, apart from political bias, as a matter of vital interest to the people as a whole. Education nowadays is a question which affects not only the life of a few privileged, selected persons, but of the entire body of citizens. The progress that has been made during the last few years in nationalising our education has been very rapid. It may be that it has been too rapid, that sufficient thought has not been given to the altered social and industrial conditions which have to be considered. We have witnessed a strong desire and a successful effort to multiply Secondary and Technical Schools, and to open more widely the portals of our Universities. The object of the desire is good in itself. As the people grow in knowledge the demand for higher education will increase; but the serious question to be considered is whether the kind of education which was supplied in schools, founded centuries ago to meet requirements very different from our own, is equally well adapted to the conditions which have arisen in a state of society having other needs and new ideals. Very rightly our students in training for the profession of teachers are expected to study the writings of Locke, Rousseau, Milton, Montaigne, and others; but many are apt to overlook the fact that these writers had in view a different kind of education from that in which modern teachers are engaged, and that their suggestions, excellent as many of them are, were mainly applicable to the instructions to be given by a tutor to his private pupil, and had little or no reference to the teaching of the children of the people in schools expressly organised for the education of the many. Only recently have we come to realise that a democratic system of education, a system intended to provide an intellectual and moral training for all citizens of the State, and so organised that, apart from any consideration of social position or pecuniary means, it affords facilities for the full development of capacity and skill wherever they may occur, must be essentially different in its aims and methods from that under which many of us now living have been trained. It has also been brought home to us that the marvellous changes in our environment, in the conditions under which we live and work, whether in the field, the factory, or the office, have necessitated corresponding changes in the education to be provided as a preparation for the several different pursuits in which the people generally are occupied. Yet, notwithstanding these great forces which have broken in upon and disturbed our former ideals—forces the strength and far-reaching effects of which we readily admit, we still hesitate to face the newly arisen circumstances and to adapt our educational work to its vastly extended area of operation and to the altered conditions and requirements of modern life.

The problem of primary education is to teach by practical methods the elements of letters and of science, the art of accurate expression, the ability to think and to control the will; and the ordinary school lessons should be such as lead to the clear apprehension of the processes that bring the child into intimate relation with the world in which he moves. During the last few years the importance of such teaching has dimly dawned upon our educational authorities, but, instead of being regarded as essential, it has been treated as a sort of *extra* to be added to a literary curriculum, already overcrowded. What is known as manual training is to some extent encouraged in our schools, but it forms no part of the child's continuous education. It is still hampered with conditions inconsistent with its proper place in the curriculum, and is uncoordinated with other subjects of instruction. Moreover, no connecting link has yet been forged between the teaching of the Kindergarten and workshop practice in the school. We speak of lessons in manual training as something apart from the school instruction, as something outside the school course, on the teaching of which special grants are paid. Twenty or thirty years ago people used to talk about "teaching technical education," and from this unscientific way of treating the close connection that should exist between handwork and brain-work our authorities have not yet freed themselves.

At present all sorts of ideas are afloat which have to be carefully and scientifically considered. The working classes have to be further and somewhat differently educated, in order that they may better understand their own wants and how they are to be satisfied. We have placed vast powers in the hands of

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local bodies, popularly elected—powers not only of administration, for which they are well adapted, but powers of determining to a very great extent, by the free use of the rates, the kind of instruction to be given in our schools, and the qualifications of the teachers to impart it. Moreover, these local bodies have shown, in many instances, a distrust of expert advice and a desire to act independently as elected representatives of the people, which cannot fail for some time at least to lead to waste of effort and of means. It was said years ago, when the centre of our political forces received a marked displacement, that we must educate our masters. Our masters now, both in politics and education, are the people, and it is only, I believe, by improving their education that we can enable them to understand the essential difficulties of the problems which they are expected to solve, and can induce them to rely, to a greater extent than they do at present, on the results of the application to such problems of scientific method, founded on the fullest information obtainable from historical and contemporary sources.

In conclusion, Sir Philip referred to the acknowledged condition of chaos in which secondary education was at present in the Board Schools. If we constructed a system of primary education which would serve equally for children of all classes—apart from social conditions—many of the present difficulties confronting the Board of Education would disappear.

INDIA AS AN IMPROVING MARKET FOR CHEMICALS.

OUR Indian correspondent writes:—"Now that the systematic destruction of rats and the disinfection of towns and houses are among the general precautions being taken throughout India on account of the plague, and also the strides in improved sanitation, suitable chemicals are finding a ready sale. As most chemical manufacturers are endeavouring to capture this gigantic trade, under improved conditions, a bird's eye view of India may be interesting, especially to those manufacturers who have appointed 'sale' agencies to look after their interests. The area of the Bengal Presidency is 122,392,054 acres, with 142 towns, 137,489 villages, 9,935,185 occupied houses, and a population of 50,722,067 persons. The Bombay Presidency has 85,565,952 acres, 202 towns, 25,699 villages, 3,490,715 occupied houses, and a population of 18,559,561. The Madras Presidency has 96,821,342 acres, 234 towns, 54,610 villages, 7,127,014 occupied houses, and a population of 38,209,436. The United Provinces of Agra and Oudh have an area of 72,454,762 acres, 453 towns, 105,068 villages, 8,684,860 occupied houses, and 47,691,782 persons. The Punjab has 86,748,004 acres, 171 towns, 32,663 villages, 3,212,734 occupied houses, and a population of 20,330,339. Burma has 107,009,469 acres, 52 towns, 60,395 villages, 2,092,811 occupied houses, and 10,490,624 persons. The Central Provinces have 74,174,539 acres, 102 towns, 37,905 villages, 2,500,724 occupied houses, and 11,991,670 persons. Eastern Bengal and Assam have 72,000,000 acres, 61 towns, 91,760 villages, 5,870,796 occupied houses, and 30,961,459 persons. Compare these huge areas with England, which has an area of 32,595,312 acres only. What a gigantic field for the British chemical industry, and for the exploitation of suitable fertilisers, disinfectants, rough chemicals, etc., etc."

Roburite Explosives Co., Ltd.—The directors have declared an interim dividend on the preference shares at the rate of 10% per annum for the six months to June 30.

South African Shipping Freights and Rebates.—The Agent-General for the Cape of Good Hope is instructed to notify that in consequence of the altered shipping freights to South African Ports, the various South African railway administrations have decided that rebates shall be given of the difference between freights before and after 1st July last on goods shipped from Europe by the Conference Lines, and forwarded direct from ship or bond at Cape Town, Port Elizabeth, or East London, and on goods from open stocks at the same ports, provided they are packed in original and unbroken packages, to the following areas in the Orange River Colony and the Transvaal. Orange River Colony.—Edenburg—Viljoen's Drift, including Winburg, Heilbron and Parys branches. Blœmfontein—Bethlehem, including Ladybrand and Maseru branches. Kroonstad—Bethlehem. Transvaal.—Vereniging — Springs — Pretoria—Vierfontein—Zerust. Rebates will be paid by the Goods Superintendents of the several railway administrations

Continental Notes.

IN the *Journal für Gasbeleuchtung* for July 27, an account is given of an ingenious research carried out by R. Ladenburg to ascertain the temperature of the incandescent particles of carbon in luminous flames. The temperature of a luminous body can, if it is absolutely black, be calculated, if it is known for what wave-length the emission of energy is the maximum. For this purpose it is necessary to examine the spectrum by means of a quartz prism and thermopile, and plot the results against the wave-lengths. If, however, the incandescent body is not black, but radiates some rays less readily than others, it is necessary also to determine this selective emission and correct the curve accordingly to what it would be for a black body. The selective emission of the carbon particles of a flame cannot be ascertained directly, but the selective absorption can, and this is practically identical. Ladenburg has measured the absorption by throwing the light from a Nernst lamp through a flame and measuring the energy radiated by the Nernst lamp and the flame separately and both together. By this means he finds that the maximum radiation for a "blackened" flame of a Hefner lamp is at $\mu = 1.75$, and of an acetylene flame at $\mu = 1.39$. Hence the temperatures of the carbon particles in these flames are 1,405° C. and 1,842° C. respectively. The temperature can also be calculated by taking the radiation at any selected wave-length and correcting for selective radiation. The results obtained in this way are in excellent agreement with those just mentioned, as also are measurements by Kurlbaum and Nichols, although the latter refer to the temperature of the acetylene flame itself, and not to the incandescent carbon particles.

The experiments carried out by Waidner and Burgess, at the American Bureau of Standards, to ascertain the reason of the advantageous results obtained with the new metallic electric incandescent lamps, are also described in the same issue. The authors find that the diminished consumption of current per candle power is partly due to the far higher temperatures that they can stand before they melt or disintegrate, as compared with the carbon filament, and partly to selective radiation. Tungsten, for instance, melts at 3,200° C., and does not form a deposit upon the glass even when the lamp is burnt out. The authors have found the specific watt consumption with carbon lamps to be 3 to 4 watts per candle-power, with the tantalum lamp 2 watts, and with the wolfram lamp 1 watt. With the arc lamp a very high temperature is attained, but the emission of light is not so very good, partly because much of the heat is lost by conduction and convection, and partly because the carbon rods themselves intercept much of the light.

In the *Chemiker Zeitung* for July 17, H. Pleyer and B. Wagner give an account of some remarkable springs that have been found in a coal mine in Silesia. Some of the springs contain free sulphuric acid, and others barium sulphide. The authors discuss the slow chemical changes that may have caused the formation of these substances.

In the same issue, M. Siegfeld gives an account of the chemistry of milk and dairy produce in 1906, and W. Gossling publishes a paper on dialkyl barbituric acids.

The issue of July 20 contains a paper by Cross, Bevan, and Briggs on the formation of lignone phloroglucide without colour reaction. There is also an account of a milk colorimeter, by A. Bernstein.

In the issue of July 24, W. Ostwald contributes a very interesting paper on the transmutation of the elements. Ramsay's discovery of the conversion of radium into helium has now been fully confirmed and established. Ramsay, however, has not stopped there, but has been investigating several other even more remarkable cases of transmutation of elements, and he believes he has established the conversion of copper into lithium. Radium emanation, moreover, is able to give rise to several different elements. If it is allowed to stand by itself or with hydrogen, it produces helium, but if the emanation is in contact with water, neon is formed, together with quite small traces of helium, and if the water contain a salt of a heavy metal, such as silver nitrate or copper sulphate, xenon is the product. But in addition to these gases belonging to the series of no valency, there are other products which, however, are formed in such exceedingly minute quantities that it is only by the skill of such a master as Ramsay that they could be discovered. The elements that have thus been observed in

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quantities of the order of 0.001 mg. are lithium, sodium, and calcium, although as regards the last two there is a possibility that they have been derived from the walls of the vessels used. These discoveries are of the most fundamental importance, as they demonstrate that the law of the conservation of the elements is by no means absolutely true, but only applies to certain conditions. And it raises the question whether the other similar natural laws have any greater degree of absolute truth: namely, the laws of the conservation of mass, energy, and momentum. Ostwald is of the opinion that although these laws are true within the limits of experimental error under ordinary conditions, they are not absolutely true in cases where there is any development of radiation. As there are always rays given off to some extent whenever there is chemical or physical change, creation and destruction of energy, etc., must be taking place everywhere and at all times, though only in extremely minute quantities.

ADULTERATION IN INDIA.

COMMERCIALLY recognised adulteration of Indian products and produce, although strongly denounced by officials, continues to go on. The producer frequently supplies a pure article, but "merchant shippers" and middlemen wilfully add an admixture before exporting, their excuse for so doing being "trade custom," and "because buyers in England refuse to pay the price of the pure article!" Various adulterants are used. To one staple Indian product of which about 1,000,000 tons are annually shipped is added an admixture of dirt, roughly 40,000 tons in the proportion of 193 to 7. This admixture is commercially recognised. One port alone supplies 20,000 tons of this dirt, and it is estimated that if the practice goes on for a century, the town will cease to exist! Outside a large town recently, a crowd of natives were observed to be carefully sifting and sieving clods of earth. On being asked the nature of the "new industry," they replied, that the sifted earth was in great demand in the town for mixing with products before "merchants" sold them, whilst at a goods station a group of natives were hard at work mixing mud and water for exported articles. Government officials recommend buyers to accept only the pure article, which would soon stop the "merchants'" practice of adulteration, and also the custom being commercially recognised.

GRANTS TO UNIVERSITIES.—On the recommendation of an Advisory Committee appointed in January last year the Treasury have sanctioned a reallocation of the grants to colleges giving university education, which reduces the grant to Victoria University of Manchester from £12,000. to £10,000. The report of the Committee has been issued as a Blue-book on Thursday, and it states that when the Committee recommended the Treasury to continue for the year 1906-7 the scale of grants adopted for 1905-6 they emphasised the strictly temporary character of the allocation then continued, and in view of the complexity surrounding the question of State grants the Committee now recommend, and the Treasury have agreed, that the period for which the present reallocation is to remain in force should be shortened from five years to two, so that a fresh reallocation may take place from April 1, 1909. For the purposes of the provisional allocation a financial test, as on previous occasions, was adopted to measure the position of each college from a purely quantitative point of view. The results so obtained were compared with the results obtained five years ago; and finally the Committee considered the special circumstances of each of the colleges in connection with the reports of inspectors who visited them. The Committee add:—"The Treasury minute of April 5, 1907, instituted the rule that no grant to any college should exceed one-fourth of the local income, and that the maximum grant should be £3,000. With the increase in the total sum available for grants these conditions have been abandoned. We think it advisable, however, that a new maximum limit for all grants should be set up, and we would suggest £10,000. as a suitable amount. This maximum would relate only to the annual grants for general purposes and would be exclusive of grants for special purposes which might be made from time to time."

THE JULY TRADE RETURNS.—The Board of Trade returns issued on Thursday show that the imports for July amounted to £52,213,304., compared with £48,607,799. in the corresponding period of last year, an increase of £3,605,505. The exports for the month were £40,452,331., against £33,442,962., an increase of £7,009,369.

Indian Notes.

Sanitary affairs are about to be handled in a scientific and skilled manner by a new Sanitary Engineer's Service.

The Government of India has approved of the revised rules in connection with specialist appointments, which number 105.

A remedy is sought for the biting-fly (*tabanus*) which causes *surra*, a most destructive disease among camels. India possesses 381,734 camels.

A chemical preparation for entirely destroying roots, vegetation, and weeds in walls, buildings and roads, retails at Rs.12.8. (*i.e.*, 16s. 8d.) per 5 gallon drum.

A remedy is sought for the beetle pest in the cocoanut fields in Ceylon. It is regarded as "the danger of the future." The area under cocoanuts in Ceylon is 880,409 acres.

During the official year just closed, 120 explosive licences were granted in India, and 235 inspections were made. No accidents occurred during the year in magazines or explosive factories.

Ceylon planters are retailing rubber seeds, August delivery onwards, *Hevea Braziliensis*, from 7 to 18 year old trees at Rs.5.0. per 1,000 seeds; and Para rubber seeds from 8 to 16 year old trees at the same price.

"The greatest living authority on manganese mining" has left Europe for India, to report on the opening up of mines, and to advise on the practicability of developing them "on a scale hitherto unattempted."

The Government Laboratory at Muktesar, near Naini Tal, has been very successful with its vaccines and prophylactics, the demand being great, not only from India, but from Burma, Ceylon, and the Straits Settlements.

The United Provinces Government has decided that an opportunity should be given for demonstration, on a commercial scale, of the Schrottky process of indigo manufacture, and the necessary quantity of the Java-Natal plant will be sown next cold season.

Six hundred and twenty applications to file patent specifications were made during the past year. Of these 209 were made by residents in India (of which 65 were from natives) and 411 were from abroad. From the latter source 194 came from the United Kingdom, 77 from the United States, 53 from British Colonies, 26 France, 25 Germany, etc.

A large industry could be built up in India in the extraction of essential oils and the manufacture of perfumery. Already, methods of a crude nature and manufacture on a small scale are in operation. A modern enterprise is needed, with up-to-date apparatus, together with chemists possessing expert knowledge. There is money in the scientific manufacture of perfumery, and India is a large consumer.

The total revenue derived from salt in Burma during last year was Rs.3,88,291. from locally produced salt, and Rs.12,64,380. from imported. Locally produced salt totalled 812,496 maunds, or 100,000 maunds in excess of the previous year. A point now engaging attention is the amount of wastage which should be allowed in respect of salt stored in warehouses. At the moment the local official may make such allowance as he thinks fit. Some suggest a 15% allowance.

MANCHESTER SHIP CANAL CO., LTD.—Mr. J. K. Bythell, presiding on Thursday at the half-yearly meeting of the Manchester Ship Canal Company, said the traffic of the port during the past half-year had been considerably larger than in previous corresponding periods, and that the total amount for distribution was £130,898. The shareholders must be prepared for considerably increased expenditure, particularly in the matters of labour and coal. He was far from pessimistic with regard to the future. In 1894 they carried 686,000 tons, and in the past year 4¾ million tons, and these figures left no room for depression. Mr. Bythell made an appeal for more extended support on the part of the traders of Manchester and the district.

STANDARD OIL LITIGATION.—On Saturday last, the Judge of the United States District Court at Chicago inflicted on the Standard Oil Company fines amounting to £5,848,000., being the maximum penalty for 1,462 violations of the anti-rebate law, of which the company had been convicted in its dealings with the Chicago and Alton Railway. The Judge condemned the conduct of the officials of the company in strong terms, and announced that the violations of the law would be investigated from the point of view of a conspiracy between the Standard Oil Company, the Chicago and Alton Railway, and their Officials.

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Selected Correspondence.

THE PRICE OF PETROL.

To the Editor of the Manchester Guardian.

Sir,—Sir Marcus Samuel, on July 29, addressing the shareholders of the "Shell" Company, is reported to have said: "Supplies of petrol are to-day so ample that . . . there is not the remotest danger of any failure of petrol supplies." He went on to say that he viewed with "amusement" the suggestion of the Motor Union that there was a possibility of a shortage in the supply.

The users of motor cars, however, cannot share the "amusement" of Sir Marcus Samuel when they know that between November 1904, and December, 1906, the price of petrol to the retail agent was increased from 7d. to 1s. 1d. per gallon. The unfortunate consumer is therefore entitled to ask (and perhaps Sir Marcus will explain) why it is that, in spite of the fact that "in Koetei alone we have proved territory, extending over a length of more than 60 miles, containing anticlinals of oil throughout the entire area," the distributing companies have put up the price of petrol 85% in two years.

Sir Marcus, however, made a statement which goes far to prove the need for the warning which the Motor Union has given. Petrol spirit forms on the average about 5% of the crude petroleum, and Sir Marcus states that "the price will necessarily depend upon whether we and other producers with whom we have to compete are obliged to produce crude oil for the sole purpose of making petrol, or whether, as at present, we can find remunerative markets for the other products which are left when the petrol is removed from the crude."

The price, therefore, at which petrol can be sold depends upon the market for the 95% of residuals. The Motor Union have been authoritatively informed that the market for these residuals of which paraffin is the most important, is on the decline. Is Sir Marcus prepared to assert to the contrary?

If, as he appears to think, it is within the range of possibility that one day he will be "compelled to produce crude oil for the sole purpose of making petrol," or, in other words, to waste 95% in order to obtain 5% of saleable product, will he deny that the shortage of petrol will be very real and the price very high? Possibly a chemical process is known to Sir Marcus Samuel which will make it financially possible to increase largely the production of petrol obtainable from the crude, and, having in the matter of this knowledge the advantage of the rest of the world, it may have justified him in speaking with such confidence.

May I venture to suggest to Sir Marcus that he has overlooked in his speech the recommendation of the Committee to motorists as to the need for using petrol spirit of a greater specific gravity and for inventing and using a carburetter which will burn paraffin? If this is is done the "Shell" Company will be able to dispose of the over-stocks of residuals and sell petrol in consequence at a reduced rate.—Yours, &c.,

W. Rees Jeffreys.

1, Albemarle-street, London, W.

Nitrate Statistics.—The Permanent Nitrate Committee, in their public statistical circular for August, state the shipments of nitrate of soda as follows:—(1.) Total exports to Europe, July, 2,293,600 quintals. (2.) Imports, Europe, July, 40,050 tons. (3.) Deliveries, Europe, July, 53,300 tons. (4) Visible supply, Europe, 1st August:—Stocks and afloat, 341,980 tons.

Russian Platinum Production.—According to the *Soloto y Platina*, the cause of the fall in the price of platinum is to be found in the action of the Successors of Count Schouvaloff, who, it is alleged, are taking advantage of some delay in payment on the part of the French buyers (who held the contract for the production of the Krestovosdvishensk mines over a long series of years at a low price), in order to cancel the bargain. This it is said has provoked the French Company to run down prices, so as to induce the Schouvaloff Company to reinstitute the contract, on the original terms. The situation, if correctly described, is a very interesting one, as the Russian platinum producers have been agitating vigorously to stop the export of unrefined platinum, and to refine the metal in Russia. The action of the Schouvaloff house appears to be a vigorous step in the direction indicated.

IRON CARBONYLS.*

By Sir James Dewar, M.A., D.Sc., F.R.S., and H. O. Jones, M.A., D.Sc.

Iron pentacarbonyl $Fe(CO)_5$ is a yellow liquid which resembles nickel tetracarbonyl in its chemical and physical properties, but it is more stable towards chemical reagents. When decomposed by reagents it always gives rise to *ferrous* salts.

The most striking difference observed between its behaviour and that of nickel carbonyl is due to the action of light, iron pentacarbonyl being decomposed with evolution of carbon monoxide and formation of an orange crystalline solid, *diferro-nonacarbonyl*, $Fe_2(CO)_9$. This change is supposed to take place in two stages, represented by

$Fe(CO)_5 = Fe(CO)_4 + CO$ and $Fe(CO)_4 + Fe(CO)_5 = Fe_2(CO)_9$

since when iron pentacarbonyl is dissolved in nickel carbonyl it is not affected by light, due, it is suggested, to the formation of an unstable compound, $FeNi(CO)_9$.

The decomposition induced by light is reversed slowly in the dark. Above 56° C. light has no action on iron pentacarbonyl: this is explained by supposing that the direct action induced by light is a change that is almost unaffected by temperature, like the reaction between ferric chloride and oxalic acid and some other photochemical actions, whereas the reverse action of carbon monoxide and the diferro-nonacarbonyl has a normal temperature coefficient.

When diferro-nonacarbonyl is heated alone a dark green liquid is produced: this consists chiefly of iron pentacarbonyl; on continued heating the green colour disappears and iron is deposited; the change is then represented by the equation $2Fe_2(CO)_9 = 3Fe(CO)_5 + Fe + CO$.

When substances like hydrocarbons or ether are present in excess, and the temperature is not allowed to exceed 100° C., an intensely green-coloured solution is obtained; no solid is deposited, and no gas is evolved. The dark green solution under suitable conditions deposits dark green lustrous crystals which represent a third compound of iron and carbon monoxide, *iron tetracarbonyl*, $Fe(CO)_4$, which has a high molecular weight. When alcohol or pyridine is used as solvent in which to heat the diferro-nonacarbonyl the solution obtained is red, and no solid could be obtained from these solutions.

Iron tetracarbonyl is very stable towards reagents: it dissolves in most organic solvents to give dark green solutions which exhibit a characteristic absorption band in the yellow. In pyridine and alcohol, however, the colour of the solution is green at first, but changes slowly on standing and quickly on warming to a deep red; the red solutions show no selective absorption.

Both diferro-nonacarbonyl and iron tetracarbonyl, when decomposed by reagents such as concentrated sulphuric acid, give carbon monoxide and *ferrous* salts.

*Abstract of a paper read before Section B of the British Association Leicester Meeting.

The Force Cragg Mines, Braithwaite, near Keswick, which were worked some thirty years ago, are being reopened. Sulphate of barytes was then mined, but this was discoloured and needed bleaching. The low price of blende at that time prohibited raising, but this mineral is now being mined. Upon the Eskdale Fells, large quantities of arsenical pyrites carrying nickel have been found, and it is reported that these will be worked at an early date.

South Metropolitan Gas Co.—The report for the half-year to June 30 states that the great increase in the cost of coal under the new contracts and in the rates has compelled the directors to increase the price of gas from midsummer from 2s. to 2s. 3d. per 1,000 ft. The dividend payable at a 2s. 3d. price is 8s. per cent., or £25,700, a year, less than with the price at 2s. More than three-fourths of the coal used in the half-year was under last year's coal contracts, while the receipts from products were better all through the half year, and there was an increase of 2.6% in the gas rental. Thereby the deficiency of £9,364, on the December accounts has been made up, and there is a small balance to carry forward. The directors therefore recommend the same dividend as has been paid for several years past, namely, at the rate of 5½% for the half-year. The dividend payable next time will be at the rate of £5. 6s. 8d.%.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Aluminium Alloy. Fried. Krupp Akt.-Ges. 16,726. July 22.
Separators. E. H. De Lany. 16,765. July 22.
Agglomeration of Ores. H. C. Kirstein. 16,773. July 22.
Compounds and Colouring Matters of the Abthracene Series. J. Y. Johnson. 16,775. July 22.
Magnetic Separation of Ore. Metallurgiska Patentaktiebolaget. 16,780. July 22.
Treating Felspar. A. J. Swayzi. 16,850. July 23.
Bicarbonate of Soda. R. H. F. Finlay. 16,853. July 23.
Recovery of Antimony from Ores. J. R. Massen. 16,884. July 23.
Absorbing Dilute Nitrous Gases. Det Norske Aktieselskab for Elektrokemisik Industrie, and B. F. Halversen. 16,885. July 23.
Producing Fatty Substances. E. Schou and H. H. Schou. 16,886. July 23.
Gas Producers. A. Monseur. 16,890. July 23.
Treatment of Ores. M. B. L. Ehrmann. 16,936. July 24.
Gas Generators. A. J. Reult. 16,987. July 24.
Dyestuffs of the Anthracene Series. P. A. Newton. 16,962. July 24.
Separating Gases of Different Densities. W. Hampson. 16,963. July 24.
Rendering Paraffin Emulsifiable. L. E. Common and The Hull Oil Manufacturing Co. 16,963. July 24.
Drying Apparatus. W. T. Griffin and B. W. Tucker. 16,978. July 24.
Chemical Compounds. R. Pawlikowski. 16,999. July 24.
Producing Liquid Air and Other Liquid Gases. G. James and E. J. Richardson. 17,052. July 25.
Rectifying Mixtures of Liquids. R. Ilges. 17,054. July 25
Purification of Sulphuric Acid from Arsenic and Selenium. H. W. Crowther, F. P. Leach, and W. T. Gidden. 17,080 July 25.
Chemical Treatment of Ores. G. Evans. 17,125. July 26.
Muffle Furnace. F. Sellner and H. Kuppel. 17,216. July 27.
Respirators. G. F. Jaubert. 17,237. July 27.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Coupled Gas Producers. Mason's Gas Power Co., and Wright. 16,218.
Artificial Fuel. Grayson. 16,977.
Treatment of Zinc Residues. MacIver and Fradd. 17,001.
Extraction of Tin from Ore. MacIver and Fradd. 17,002.
Cement Manufacture. Timofeeff. 17,006.
Cooling and Purifying Gases. Meyer and Hastert. 17,999.
Esters of Alcohols of Terpenes. Shukoff. 20,526.
Bunsen Burners. Oxman and Lusen. 21,817.
Extraction of Sulphur. Rohleder. 23,967.
Tertiary Butyl-xylene or Tertiary Butyl-toluene. Bloxam. 28,147.

1907.

Rotary Kilns. Shiner. 443.
Super-Alkalinated Dry Soap. Soc. Francaise "La Cremouline." 2,519.
Steam Superheaters. Pielock. 5,841.
Electrolytic Process of Copper Extraction. Thiret and Mage. 6,502.
Ore Washers or Concentrators. Wall. 7,801.
Disintegrating Machines. Jaquet. 9,555.
Extraction of Sulphur from Gangue. Boult. 11,187.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Method of Manufacturing Explosives. H. N. Wessel, 34, Kirkegaden, Christiania, Norway. British Patent, 2,286. (Date applied for under International Convention, February 7, 1906).

The inventor claims :—(1.) Method of rendering ammonium nitrate explosive with metallic ingredient easily detonisable in compressed condition, characterised by the addition and even distribution in the mass of the explosive of a suitable quantity of nitrocellulose. (2.) Explosives manufactured as firstly claimed. (3.) Explosives manufactured according to the method stated in claim (1), and containing :—nitrate of ammonium, 50-80%; ferrosilicon, 5-20%; nitrocellulose, 5-25%; organic or free carbon, 0-10%; ammonium oxalate (chloride) 0-8%. (4.) Explosives as firstly claimed, with the addition of a suitable amount of black gunpowder, according to different requirements.

Improvements Relating to Electric Furnaces. S. Z. de Ferranti, 31, Lyndhurst Road, Hampstead, London. British Patent, 13,949. June 18, 1906.

This invention relates to electric furnaces of the general type described in Specification No. 700 of 1887.

The claims are :—(1.) An induction furnace operated by one or more phase current, and having energising or primary coils constructed of tubular form through which a cooling fluid is circulated. (2.) An induction furnace having means for preventing the iron of the magnetic circuit rising above the temperature at which the maximum permeability is obtained. (3.) An induction furnace operated by one or more phase current, and having a rotary or shifting magnetic field adapted to circulate or mix the molten metal. (4.) The furnaces described with reference to the drawings accompanying the specification.

Improvements Relating to Electric Furnaces. S. Z. de Ferranti, 31, Lyndhurst Road, Hampstead London. British Patent, 13,949a. June 18, 1906.

The claims of this specification are :—(1.) A two or more phase electric induction furnace having two or more cores grouped for the minimum loss. (2.) A two or more phase electric induction furnace, in which certain parts of the magnetic cores energised by currents of different phase are coalesced to reduce the length of the magnetic circuits and minimise loss. (3.) Improved electric induction furnaces substantially as described with reference to the drawings accompanying the specification.

Improvements in the Manufacture of Soap. J. C. A. Henderson, Bishopsgate Street Within, London. British Patent, 14,784. June 28, 1906.

This invention relates to a process for the manufacture of soap from cocoa-nut oil, and consisting in forcing ozonised air or ozonised oxygen through the cocoa-nut oil at a suitable temperature, until the oil loses its characteristic odour and gives an oxidising reaction with potassium iodide, and then saponifying the oil.

A New or Improved Discharging Apparatus for Superphosphate Pits. H. R. Neech, 20, Colegrave Street, Lincoln. British Patent, 17,512. August 3, 1906.

The apparatus consists of a horizontal base frame mounted on running wheels and having rear upstanding brackets provided with a transverse shaft carrying one or more drums or wheels, while pivoted to the transverse shaft is a forwardly extending frame carrying at its free end a transverse shaft, on which is mounted one or more drums or wheels corresponding with those on the rear shaft, around which drums or wheels are passed one or more endless chains or belts carrying a series of prongs or forks, and the pivoted frame is adjustably supported so that the forward end of the endless chain or belt, carrying the prongs or forks, is capable of being raised or lowered at will; while the endless chain or belt is driven by hand or by power, as desired.

In use, the forward end of the apparatus is lowered so as to pass within the open end of the pit, when, by operating the endless chain or belt, the prongs or forks thereon are caused to engage with the superphosphate and discharge it from the pit; while, by mounting the apparatus on running wheels, the entire apparatus can be moved to any position within the pit, to cause the prongs or forks of the endless chain or belt to engage and remove the superphosphate therefrom. The superphosphate can be dropped by the prongs directly on the ground; or, if desired, the apparatus can be provided with a conveyer belt or trough below the prongs, so as to receive the discharged superphosphate and carry it outward to a suitable position away from the mouth of the pit.

Improvements in the Treatment of Sulphuretted Hydrogen, or Gases Containing Sulphuretted Hydrogen, for the Obtainment of Sulphur therefrom. C. E. Tyers, J. Hedley, and the United Alkali Co., Ltd., all of 30, James Street, Liverpool. British Patent, 25,976. November 16, 1906.

For the purpose of obtaining sulphur from sulphuretted hydrogen, or gases containing sulphuretted hydrogen, the sulphuretted hydrogen, or gases containing it, have been mixed with air, and the mixture passed in contact with a substance such as bog iron ore, or bauxite, but the yields of sulphur have not been satisfactory. The inventors have found that the obtainment of the sulphur from sulphuretted hydrogen, or gases containing sulphuretted hydrogen, is more readily effected and a better yield obtained if, in place of contact substances such as bog iron ore and bauxite, the contact substance, or catalytic agent, is a salt, or ore, of titanium, or other titaniferous substance, either in the crude or in a prepared state; for instance, titanic iron ore, or rutile, may be used, or titanium oxide mixed with broken bricks, etc., or broken bricks, etc., impregnated with titanium chloride.

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Improvements in the Manufacture of Alumina Compounds. Dr. E. Ludvig Rinman, Upsala, Sweden. British Patent, 15,590. July 10, 1906.

The inventor claims:—(1.) A process of manufacturing aluminium salts, consisting in heating an alumina-containing material with an ammonium salt, so that the acid of the ammonium salt produces the corresponding aluminium salt, with the generation of ammonia. (2.) The process of manufacturing aluminium sulphate, which consists in heating aluminium-containing material with ammonium sulphate to about 400° C., whereby aluminium sulphate is formed with the generation of ammonia.

Improvements in the Utilisation of By-Products Obtained in the Manufacture of Borax. The Liverpool Borax Co., Ltd., and Ambrose Fry, both of Rathbone Road, Liverpool. British Patent, 4,193. February 20, 1907.

In the manufacture of borax a by-product is formed known as borax-mud, and composed of magnesium carbonate, calcium carbonate and compounds of silica and soda, precipitated in the saturators. This borax mud from the saturators is taken after being freed from the mother liquors, and to it is added soluble alginates prepared from various classes of seaweed. The proportion of alginate may vary from 5% to 20%, preferably about 15%.

The borax mud and alginate are thoroughly and intimately mixed in a suitable mixing machine or mill, say for about 15 minutes, and sufficient water is added to reduce the material to a plastic or semi-plastic mass of about the consistency of ordinary plaster. To the material during mixing may be added any desired quantity of asbestos fibre, hair, or other fibrous substance to cause the material to bind more firmly together.

The material so produced has very low heat-conducting or absorbing properties, and may be used for covering steam boilers, steam pipes, etc., to prevent radiation of heat, or for other purposes.

CALCIUM: ITS PROPERTIES AND POSSIBILITIES.*

By Arthur E. Pratt, B.Sc., A.R.S.M.

General Properties.—Calcium is a silvery white metal readily oxidised in moist air. It is very light (sp. gr. 1.52), fairly malleable, has a high specific heat, and is a good conductor of electricity. It is about as hard as aluminium, but at 400° C. becomes as soft as lead. It is volatile, and can be sublimed *in vacuo* between 700° C. and 800° C., and melts at the latter temperature. It is a very powerful reducing agent.

Calcium Alloys.—The chief effects of alloying calcium with other metals are to produce brittleness, crystallisation, and hardness; to promote oxidation and disintegration on exposure to air; to confer the power of decomposing water, and in other ways increasing the chemical activity.

The author's experiments confirm Roberts-Austin's observation that the presence of small amounts of metals of high atomic volume will cause deterioration of the physical properties of metals of low atomic volume. The atomic volume of calcium is high (25.4), and the effect of small amounts on other metals is decidedly prejudicial, provided that the metals in question are pure. The experiments were conducted in a converse manner to Roberts-Austin's, *i.e.*, the constant was a metal of high atomic volume (calcium) instead of being low (gold). In the course of the work the following observations were made. When an alloy is made of calcium and some metal which possesses a chemical property in common with it, an increased activity in the manifestation of that property is noticed in the alloy. This increase appears to be greater than would be obtained by the simple admixture of a more active metal, the presence of calcium usually increasing the activity of the other metal. In some cases the alloy is more active than either of its constituents.

Further, the chemical properties of calcium appear to be more pronounced in an alloy with a metal having an atomic volume closely approaching that of calcium than they are in an alloy of the same percentage with a metal having a much lower atomic value. The two metals in question should be about equally active when unalloyed in the particular property with respect to which they are to be compared.

It is probable that both these principles are general, and not confined to calcium, although more extended research on these lines would be desirable.

* Abstract of a paper read before Section B of the British Association, Leicester Meeting.

Industrial Possibilities.—The most promising applications of calcium are as a reducing agent and for the refining of metals. In the latter case it acts in three distinct ways:—(1) By reducing oxides and sulphides; (2) by eliminating dissolved gases; (3) by forming compounds with certain impurities, thus rendering them less deleterious. All three modes of action are strikingly shown in the case of copper. A suitable addition of calcium will remedy "dry" or "sulphury" copper, give a sound casting, and give a soft and tough ingot with prohibitive proportions of bismuth or antimony, besides restoring ordinary overpoled copper to tough pitch. If excess of calcium is present, however, it induces brittleness on its own account.

With one or two doubtful exceptions, no alloy of calcium has shown any promise of commercial utility so far as physical properties are concerned, its only likely application in this direction being its hardening property.

NEW YORK PRICES CURRENT.

July 23, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8¼
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¼
„ „ „ Continental	„	0 7
Ammonia, Carbonate, lump	„	0 7½
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9½
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	„	0 8½
„ Carbonate, 90%	„	0 4½
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4½
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

The Professorship of Chemistry at the Handelshochschule, Berlin.—We are informed that Professor Binz has been appointed to the Chair of Chemistry at the Handelshochschule, Berlin. Professor Binz is 39 years of age, and early began his study of chemistry, passing from the Gymnasium of his native town, Bonn, through the universities of Manchester, London, Berlin, Gottingen and Leipzig. In the chemical industry he is well known as an authority on textile printing, dyeing and mercerising, and his work in connection with the manufacture of indigo and its applications is equally well known. Professor Binz is the author of several standard works, and he has contributed largely to periodical chemical literature.

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Stock and Share List.

WEEK ENDING AUGUST 7, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO Thursday, August 1.	Friday, August 2.	Saturday, August 3	Monday, August 5.	Tuesday, August 6.	Wednesday, August 7.
120,000	1	1	Bell's Asbestos ... ... ord.	1¾ 1⅞	1 23/32 2 5/32	1 23/32 2 5/32			1 31/32 2 1/32
	Stock	100	Borax Consolidated 4½% deb. stock red.	110 112	110 112	110 112			110 112
80,000	10	10	Do. ... ... pref.	11 5/16	11⅛ 11⅜	11⅛ 11⅜			11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ... ord.	23/9	23/7½	23/9			23/9
1,500,000	1	1	Do. ... ... 5 % c.p.	20/10½	20/10½	21/-			21/-
35,000	10	10	British Dyewood ... ... ,,	4 4¼	4 4¼	4 4¼			4 4¼
600,000	1	1	British Oil and Cake Mills ... ord.	12/6 13/-	13/3	12/9 13/3			13/0
235,000	1	17/-	Broxburn Oil, Ltd. ... ... ,,	45/-	44/-	44/3			45/-
10,000	10	10	Do. ... ... 6 % c.p.	12 9/16	12 9/16	12 9/16			12 9/16
1,472,154	1	1	Brunner, Mond, and Co. ... ord.	5¼ 5⅜	5⅜	5⅛ 5⅜			5⅛ 5⅜
32 678	10	10	Do. ... ... 7 % pref.	17½	17¼ 17⅜	17¼ 17½			17¼ 17½
96,000	5	5	Bryant and May ... ... c.p.	12½ 13	12½ 13	12½ 13			13
40.000	10	10	Buxton Lime Firms ... ... ord.	6 6⅛	6 6⅛	6 6⅛			6 6⅛
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ... ,,	20/3	20/1½	20/1½			20/3
450,000	1	1	Castner-Kellner ... ... ,,	24/6 25/-	24/9	25/-			24/6 25/-
16,000	5	5	Clayton Aniline ... ... ,,	2¾ 3	2¾ 3	2¾ 3			2¾ 3
12,000	5	5	Do. ... ... 6 % c.p.	3¾ 4	3¾ 4	3¾ 4			3¾ 4
6,000	10	5	Cleveland Salt ... ... 6 % m.p.	2½ 3	2½ 3	2½ 3			2½ 3
20,000	10	10	Crosfield, J., and Sons ... ... c.p.	10 10¼	10 10¼	10 10¼			10 10¼
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27 6 28/6	27/6 28/6	27/6 28/6			27/6 28/6
5,000	10	10	Do. ... ... 6 % c.p.	12 9/16 12 5/8	12 9/16 12 5/8	12 9/16 12 5/8			12 9/16 12 5/8
£15,223,235	Stock	100	Gas Light and Coke Co. ... ... ord.	90	88 90	94½			94⅞
	10	10	India Rubber Co. ... ... ,,	15 16	15 16	15 16			15 16
	5	5	Lagunas Nitrate ... ... ,,	3⅛ 3⅜ 8	3⅛ 3⅜ 8	3⅛ 3⅜ 8			3⅛ 3⅜ 8
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	10¾ 11¼	10¾ 11¼	10¾ 11¼			10⅞ 11⅛
	5	5	Lautaro Nitrate ... ... ,,	10 7/16	11⅛	10 7/16 11⅛			10⅞ 11⅛
200,000	10	10	Lever Bros. ... ... 5 % c.p.	23/- 23/3	23/- 23/3	23/- 23/3			23/-
400,000	10	10	Manchester Ship Canal ... ... ord.	32/-	32/- 32/6	32/- 32/6			32/3
400,000	10	10	Do. ... ... per 5 % pref.	30/6 31/-	31/-	31/-			30/9 31/-
120,000	1	1	Mandleberg ... ... ord.	2⅞ 3⅛ 1/6	2⅞ 3⅛ 1/6	2⅞ 3⅛ 1/6			2⅞ 3⅛ 1/6
185,145	1	1	Mason and Barry ... ... ,,	12¼ 12¾	12¼ 12¾	12¼ 12¾			12¼ 12¾
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	15½	15½	15⅜			15 9/16
110,007	10	10	Nitrate Railways ... ... ,,	15½	15¼	15⅜			15⅜
228,540	10	10	Nobel Dynamite Trust ... ... ,,	37/6	38/-	39/6			39/6
	10	10	Do. ... share warrants	1⅜ 1½	30/-	1⅜ 1½			29/9
200,000	1	17/-	Oakbank Oil, Ltd. ... ... ord.	13 13¼	13⅛ 13⅜	13⅛ 13⅜			13⅛ 13⅜
	1		Pears, A. and F. ... ... ,,	33	33	33			33
70,000	10	10	Pease and Partners ... ... ,,	11⅜	11⅛	11½			11½
37.500	16	16	Price's Patent Candle ... ... ,,	12⅛	12⅛	12⅛			13
130,000	1	17/-	Pumpherston Oil, Ltd. ... ... ,,	78½ 79	78	77½			76½
10,000	10	10	Do. ... ... 6 % c.p.	5	5	5			5
325,000	5	5	Rio Tinto ... ... ord.	2/9 3/3	2/9 3/3	2/9 3/3			2/9 3/3
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	18/4½	18/6	18/- 18/6			18/- 18/6
239,479	1	14/2	Sadler and Co. ... ... ,,	4⅜ 4 7/16	4⅜ 4 7/16	90/3			87/6
200,000	4	4	Salt Union ... ... ,,	1 1⅛	1 1⅛	1 1⅛			21/3
100,000	6	6	Do. ... ... 7 % n.c.p.	1 1¼	1 1¼	1 1¼			1 1¼
£148,000	1	1	Sanitas Co., Ltd. ... ... ord.	15/16 1	15/16 1 5/16	1 5/16			1 5/16
	4	4	San Jorge Nitrate ... ... ,,	120 122	120 122	122			120 122
	1	1	Schibaieff Petroleum ... ... ,,	8⅞ 9⅛	9	8⅞ 9⅛			8⅞ 9⅛
£6,250,000	Stock	100	South Metropolitan Gas	6⅛ 6¾	6⅝	6⅜ 6⅝			6⅜ 6⅝
45,000	10	10	Steiner, F., and Co. ... ... 5 % c.p.	80/9	81/-	80/6 81/-			80/6 81/6
625,000	2	2	Tharsis Sulphur and Copper ... ,,	11⅞ 12	11⅛	11⅞ 12			11⅞ 12
289,343	10	10	United Alkali ... ... ord.	2/9 3/3	2/9 3/3	2/9 3/3			2/9 3/3
282,524	10	10	Do. ... ... 7 % pref.	1⅜ 1⅝	1⅜ 1⅝	1⅜ 1⅜			1⅜ 1⅝
80,000	1	1	United Indigo and Chemical ... ord.	21/6 22/6	21/6 22/6	21/6 22/6			21/6 22/6
66,666	5	5	Willans and Robinson ... ... ,,	1/- 2/-	1/- 2/-	1/- 2/-			1/- 2/-
210,000	1	1	Woolcombers ... ... 7 % c.p.	72/6	75/9	75/6			75/3
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.						
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,						

No Lists Published. Bank Holiday.

BILLS IN PARLIAMENT.—The Government do not intend to proceed further with the Poisons and Pharmacy Bill. The Companies Bill and the Butter and Margarine Bill have been read a second time in the House of Lords.

THE INCOME TAX.—Mr. Corrie Grant has addressed a question to Mr. Asquith with regard to the right of income tax payers to claim the lower rate of 9d. in the pound, asking whether it is proposed that any person who has already made a return and does not receive the supplementary form will have to pay one shilling in the pound unless he applies for a supplementary form during the present month to the local surveyor. Mr. Asquith, in his reply, says that such is not the intention. Persons who are entitled to relief in respect of earned income, and who have not already made a return of their total income for the purpose of claiming the existing statutory abatements, will be required, as provided in the Finance Bill, to present their claims before September 30. Supplementary forms for this purpose will be issued by the surveyors of taxes to persons who appear to be entitled to relief immediately after the passing of the Finance Bill; but, as stated in reply to a question by Mr. Evelyn Cecil on July 19, it will be advisable for anyone so entitled who has not received a supplementary form by the end of the present month to apply to the surveyor for his district, who will see that the omission is repaired.

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Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, July 23rd, 1906.

(Rate of Exchange, $4.87 = £1.)

Nitrate of soda remains firm, but not very brisk at $2.50. per 100 lbs. Sulphate of ammonia inclines to dulness, at $3.05. per 100 lbs. Grey muriate is 6c. to 6¼c., as to make, and is in fair demand. White electrical muriate is weak under plentiful offers, and ranges from 5¼c. to 6⅛. Lump carbonate of ammonia is 7¼c.' to 8c., and powdered nominally 1c. per lb. more. Lump sal ammoniac, good white seconds, is unchanged, at 9¼c. per lb. Bleaching powders are dull at $1.20. to $1.30. as to brand. Alkali is unchanged, at 92½c. per 100 lbs., f.o.r. makers' works for light 58% in bags. Caustic soda, 74%, is $2.05. per 100 lbs. Sulphate of copper is weak, at 7c., the present Syndicate quotation. White powdered arsenic is in fair demand for prompt delivery, at 7c. to 7¼c., while futures are offered at about the same range. Red Saxony arsenic is steady, at 7½c., with Silesian make somewhat less. Calcined carbonate of potash, 80-85%, is 3⅞c.; and hydrated, same test, 4¼c. Caustic potash, 75%, is 4½c. Chlorates are unchanged at the regular Syndicate prices. Bichromates are now controlled by convention, and soda is 7⅛c.; and potash, 8⅛c. Oxalic acid remains in good demand, at 8¼c. to 9c. for prompt delivery. Prussiate soda is 9⅝c., and potash 15⅝c. to 16c. Phosphate of soda is $1.85. per 100 lbs., in bags. Sulphide of soda is $1.35. per 100 lbs. Antimony products continue to decline; needle is now offered at 8c. on spot, while antimony salts, 47%, are quoted at 16c.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with values given at 8¼d. to 8½d. for 90's, and 9d. for 50-90's.

Crude tar, 15s. 6d. to 20s. per ton, Thames; 1¼d. to 1⅜d. per gallon delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d.; pitch (London), 26s., f.o.b.; Gas Company, 29s. to 30s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. to 24s. 6d. Carbolic acid, crude, 50%, 1s. 5¼d. to 1s. 5½d.; 60%, 1s. 7¼d. to 1s. 8d.; 75%, 1s. 11¾d. to 2s. Crystals, 39-40, 5¼d.; 34-35, 5⅝d. Cresylic, 95%, 1s. 1¾d. to 1s. 2d. Anthracene, 40 to 45% A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia dull. Nearest values are:—Beckton, £12. 2s. 6d.; Beckton terms, £11. 13s. 9d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined 11s. 9d.; Liverpool ordinary, 11s., and refined, 11s. 3d. Official quotations:—Cargoes off coast or due, 11s. 3d.; ditto for prompt shipment, 11s. 6¼d.

FERTILISER MATERIALS.

FRIDAY.

Business throughout the past week has been of a holiday character. Mineral phosphates of all grades maintain a strong position.

Little interest is shown in East Indian bone meal for shipment, shippers being firm at £5. per ton, nett, c.i.f. terms Liverpool, for 4½ and 52% quality. On spot £5. 7s. 6d. to £5. 12s. 6d. per ton, ex store, is asked.

Nitrate of soda is very quiet, though prices remain steady, at 11s. 1½d. to 11s. 4½d. per cwt., ex store, according to quality.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: standard brands, £82. 10s. to £82. 15s. cash, and £80. to £80. 5s. three months. Tin: G.M. quality, £174. 10s. to £175. cash, and £174. 5s. to £174. 15s. three months; English, £178. Lead: soft foreign, August delivery, £19. 12s. 6d.; September, £19. 10s.; October, £19. 5s. to £19. 7s. 6d.; November, £19. 2s. 6d.; English, £20. Spelter: ordinary brands, September shipment, £22. to £22. 5s. ex ship; hard, £18. 10s. to £19., f.o.b. Antimony, £40. to £43.; ore, £9. to £10. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 16s. Nickel, £175. to £185. Pig-iron: Closing prices: Cleveland, 57s. 8½d. cash, and 57s. 8d. one month.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

Upon the whole business is steady, though a rather quieter tone is noticeable in some branches of the chemical trade, which is not unusual at this season. In the principal products of the alkali trade there are no changes in values of material importance. Sulphate of copper is lower, at £30. 10s. to £30. 15s., in sympathy with the lower price of copper. Alkali, 58%, is firm, and in steady good demand at £4. 10s. per ton, bags, f.o.r. Soda crystals 60s. per ton. Bleaching powder for delivery this year £4. 7s. 6d. to £4. 10s., f.o.r. Chlorates unchanged at 3½d., usual conditions. Caustic soda, 70%, stands at £9. 15s., f.o.b., and other strengths at the usual relative prices. Saltcake, in bulk, is in good general request both for home and export, at 40s. to 42s. 6d. per ton, f.o.r. and f.o.b. Sulphur is steady at £4. 17s. 6d. per ton, f.o.r. Acetate of lime, 80%, firm at £12. 10s., c.i.f. Acetate of soda, £16. 15s. to £17., c.i.f. Sugar of lead, all qualities, quiet, but prices without further change. Acetic acid keeps steady at former quotations. Ammonia and ammonia salts continue in good general request, and quotations are firm. Prussiates meet with better inquiry.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—The effect of the holidays upon this market has been weakening, more so in regard to linseed than cottonseed oil. The position of linseed oil is not strong, and value is only maintained with difficulty by the crushers. Amongst the principal imports here to date, as against the same time a year ago, are:—Wheat 2,418,906 qrs., against 2,367,011 qrs.; flour, 114,432 cwts., against 227,913 cwts.; linseed 424,518 qrs., against 311,739 qrs.; rapeseed 50,684 qrs., against 44,251 qrs. Cottonseed, Egyptian, 122,221 tons, against 105,741 tons; other kinds, 105,747 tons, against 91,718 tons; oilcake 17,437 tons, against 25,489 tons; hemp 81,315 cwt., against 106,572 cwts.; olive oil 3,379 tuns, against 2,857 tuns; tar 2,344 brls., against 3,725 brls. Amongst the weekly imports: Lard 1,121 cwts., sugar 15,005 cwts., hides 454 cwts., colours 299 pkgs., wool 33,890 lbs. Exports: Oil 9,496 cwts., colours 3,149 pkgs., Linseed oil closes quiet, at 22s. 6d., naked; August, 22s. 3d.; September-December, 21s. 1½d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week: 1 ton Austria, 3 Denmark, 7 France, 12 Germany, 5 Norway; total, 28 tons. Linseed is generally quieter: La Plata, 40s. 6d.; July-August, 41s.; Calcutta, July-August, 42s. 6d. Refined cotton oil steady, spot and month 28s. 9d.; September-October, 27s. 10½d.; November-April, 23s. 9d.; casks £1., and barrels £1. 10s. per ton extra. Exports for week have been:—3 tons Denmark, 4 France, 41 Germany, 22 Holland, 1 Norway, 4 Sweden; total, 75 tons. Cottonseed: But little business passing; spot, £8. 3s. 9d.; afloat, £8. 3s. 9d.; August, £8. 5s.; October, £7. 5s.; November-January, £7. 2s. 6d. to £8. 3s. 9d.; Bombay, July-August, £5. 15s. 3d. Rapeseed quiet. Turpentine quiet: American, 42s. September-December, 43s.; January-April, 44s. 3d.; Russian easier, 21s. Rosins quiet, 11s. upwards. Olive oil, £41. to £42. per tun. Castor oil, November-December, 30s. 6d.; January-June, 30s. 9d. for first pressure.

CAKES.—A generally steady market for feeding stuffs, with linseed cakes firm. Cotton cakes rather scarce; prices steady. Bombay cakes rather quiet and not so much in demand.

PAINTS.—Quiet for export. Home market prices unchanged.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

Palm oil steady, sales including Lagos, on spot, £30. 10s. per ton. Olive oil quiet, and without change. Linseed oil steady, at 25s. 9d. to 26s. 6d., for Liverpool makes in export casks. Cottonseed oil in moderate inquiry, at 31s. 6d. to 32s. per cwt., for Liverpool refined, in export barrels. Rosin steadily held. Tallow quiet, at 32s. to 34s. 6d. for Norths; and Matadero mutton, 35s. per cwt., c.i.f. Turpentine steady, at 42s. per cwt., on spot. Petroleum firm, at 6½d. for Russian and Roumanian; and 7d. to 8d. for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon, on spot.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

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LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quiet. Pearl ash nominal. Bark steady. Logwood and fustic steady, with nominal supplies. Cutch quiet. Gum arabic steadily held. Castor oil steady, at 3 5/16d. for good seconds Calcutta; 3 7/16d. to 3¼d. for first pressure French; and 3½d. for second pressure French; Calcutta, well held at 3¼d. for August-September shipment. Gambier quiet, at 19s. to 19s. 6d. for block, on spot, and 18s. for June-July and July-August shipment; cubes in limited supply, at 28s. 6d., on spot, and 27s. 9d. for August-September shipment. Shellac quiet, at 205s. for spot TN orange. American powdered starch, 10s. on spot, and 9s. 6d. c.i.f., for shipment; pearl, 9s. 4½d. on spot, and 9s. c.i.f., for shipment. Cream of tartar, 98% foreign powder, 81s.; 95%, 79s. Tartaric acid: English, on spot, 11¼d.; and foreign, 11d. Citric acid, English, 1s. 11½d.; foreign, 1s. 11d.

TYNE CHEMICAL REPORT.

THURSDAY.

Chemicals continue in quiet demand, with a steady business doing, and no change in prices.

Caustic soda, 70%, £9. 15s.; and 76-77%, £10. 10s. per ton. Soda crystals, locally, £3. to £3 2s. 6d. per ton gross weights. Bleaching powder, £5. to £5. 5s. per ton. Sulphur firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2-cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett, do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (salt cake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market is very firm, and all coals are very strongly held. The long loading turns are making business difficult, and very little coal is obtainable for August. Everything points to a firm market for some little time, and this will be accentuated by the fact that the Durham miners have just been awarded an advance of 7½% in wages. Current quotations:—Best Northumbrian steam, 16s. to 16s. 3d. per ton; second qualities, 15s. 6d. to 15s. 9d. per ton; small steam, 10s. to 10s. 6d. per ton; best gas coals, 15s. to 15s. 6d. per ton; good Durham bunker, 13s. 3d. to 13s. 9d.; coking coals, 14s.; household coals, 10s. to 17s. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

In the ordinary heavy chemicals during the past week there has been some little tendency in the direction of increased movement, and values are correspondingly firmer, though without any specific change. The somewhat brisker demand applies to both spot and forward, and in the case of the latter the feeling is towards some advance, in view of the higher costs of fuel, labour, etc. Sulphate of ammonia, Leith and Glasgow deliveries, remains unwontedly steady in quotations, (no change of any consequence for some weeks), although there is little of activity in actual dealing, and what little there is, confined to spot business. Nitrate of soda also continues quiet and with little or no variation in value. Sulphate of copper maintains the recent slowly lowering tendency, the figure to-day being about £30. 5s.

Chief prices current are:—Alum (in lump) £5. 5s. to £6. nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s. nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b., Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b., Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16.; and boracic acid, £25., nett, Glasgow; caustic soda, white, 76%, £10. 10s.; 70-72%, £9. 15s.; 60-62%, £8. 15s.; and cream, 60-62%, £8. 15s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace) 2¼d., naked, f.a.s., Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 1⅞d. to 2¼d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6¼d. and 6½d., new season's contract prices at Glasgow and other big centres; ditto (lubricating) 805°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; and 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s. to 42s. 6d.; soda ash, £5. 10s. to £5. 15s. nett Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £30. 5s., less 5% Liverpool, prompt.

New Companies.

Biological Sewage Disposal (Dibdin's System), Ltd.—Capital, £13,000., in £1. shares. This company has been formed to acquire from W. J. Dibdin the benefit of a certain existing invention relating to improvements in sedimentation tanks or the like, particularly for sewage treatment, and to develop and turn to account the same. Minimum cash subscription, 25% of the shares offered to the public. The first directors are W. J. Dibdin, H. J. Hadrill, W. C. Dickinson, and G. Stevenson. Qualification (except first directors) £250. Remuneration, £150. each per annum (chairman £200.) and 5% of the net profits, divided. No remuneration for W. J. Dibdin in any year unless 5% dividend is paid on the ordinary shares. Registered office, 15, Leadenhall-street, E.C.

Cail's Bitmo Co., Ltd.—Capital, £30,000., in £1. shares (6,000 preference). This company has been formed to acquire the business of manufacturers of and dealers in bituminous preparations and compositions and heat proof cements, carried on by W. Cail, J. Harbottle and T. Pemberton, trading as William Cail and Partners, and by Holzapfel's Compositions Co., Ltd., at Newcastle-on-Tyne and elsewhere. No initial public issue. The first directors are W. Cail (managing director), J. Harbottle and A. C. A. Holzapfel (of 57, Fenchurch-street, E.C.). The directors of Holzapfel's Composition Co., Ld., may, during the first seven years' nominate one director, the said A. C. A. Holzapfel being their first nominees. After the first seven years, any holder of 7,500 shares may nominate one director. Registered office, 3-4, Cail's Buildings, Quayside, Newcastle-on-Tyne.

Cleveland Magnesite and Refractory Co., Ltd.—Capital £10,000., in £1. shares. This company has been formed to carry on the business of manufacturers of and dealers in fire-resisting goods, including ganister, silica, magnesite and chrome bricks, ground ganister, etc. No initial public issue. The first directors are H. N. and F. H. Brooke, T. Twynam and J. B. Peat; qualification £200.

Norse Zinc Co., Ltd.—Capital, £250,000., in £1. shares. This company has been formed to acquire certain mining claims and rights over lands in Norway, and to adopt an agreement with the Contract and Securities Co., Ltd. No initial public issue. The first directors are to be appointed by the subscribers; qualification 1 share; remuneration £100. each per annum and £50. extra for the chairman. Registered office, 19, Basinghall-street, E.C.

Oowana Soap and Candle Co., Ltd.—Capital £60,000., in £1. shares. This company has been formed to adopt agreements (1) with B. P. Maisel and (2) with Oowana, Ltd., and to carry on the business of soap and candle manufacturers and merchants, etc. Minimum cash subscription 10% of the shares offered to the public. The first directors are H. G. Smith (chairman), J. A. Cooney, F. O'Shaughnessey B. Reade, Rear-Admiral C. Windham and B. P. Maisel; qualification £100.; remuneration not less than £50. each per annum. Registered office, 26, Red Lion-square, W.C.

Siputeh Tin Mines Ltd.—Capital, £40,000., in £1. shares. This company has been formed to adopt an agreement with F. E. Mair, and to carry on in the Federated Malay States and the Straits Settlements, the business of miners, explorers, prospectors,

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metallurgists, smelters and preparers for market of metals, ores and minerals, etc. No initial public issue. The subscribers are to appoint the first first directors; qualification 250 shares; remuneration (except managing director) £150. each per annum (chairman £200.) and 5% of the net profits after providing for 15% of the shares, divided.

Stern Sonneborn Oil Co., Ltd.—Capital £25,000., in £5. shares (2,000 6% cumulative preference). This company has been formed to acquire (1) that part of the business of the Oelwerke Stern Sonneborn Aktien Gesellschaft of Hamburg, Cologne and Paris, which is carried on in the United Kingdom and the Colonies, Dependencies and Protectorates of the British Crown under the sole agency of ,and in part in joint account with J. Wallach and L. C. Wallach (trading as Wallach Brothers) under the style of the Stern Sonneborn Oil Co.; and (2) the business of the Chemische Werke für Textil Industrie G. M. B. H., of Hamburg, carried on in the British Empire, to adopt agreements (1) between the Oelwerke Stern-Sonneborn Aktien Gesellschaft of the 1st part, J. Wallach and L. C. Wallach of the 2nd part, and this company of the 3rd part; (2) with the said J. Wallach and L. C. Wallach, and (3) between the Chemische Werke fur Textil Industrie and Wallach Brothers, of the 1st part, the said J. Wallach and L. C. Wallach of the 2nd part, and this company of the 3rd part, and to carry on the business of manufacturers, importers, exporters, refiners and blenders of and dealers in oils, greases, lubricants, petroleum jelly, etc. No initial public issue. The first directors are L. Stern, J. Sonneborn, J. Wallach and L. C. Wallach; qualification, £100. shares or stock. J. Wallach and L. C. Wallach are managing directors, with remuneration as fixed by the board or by the company.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Cas. or Cs.	Cases.					lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runiets.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending July 27.

AMENDMENT.

C.T.J., No. 1051, p. 108, Aug. 3.—**Bleaching Powder**, France, £244, ditto £286, ditto 301 t., U.S.A., 2,633 t., *should read* **Phosphate of Lime.**

Acetic Acid—
Holland, 25 cs. W. H. Muller
,, 10 pks. & Co.
,, 22 R. W. Greeff
,, 4 cks. & Co.
Norway, 31 B. Biggs & Co.
,, 75 crbys. Weber, Smith & Hoare
Germany, 17 H. W. Brummerstaedt & Co.

Acetone—
France, £170 H. W. Champney
A. Hung., 807 S. F. Griffiths

Alum—
Belgium, 4 cks. J. W. Steel & Co.

Aluminium—
France, 1 t. O. Murray & Co.

Aluminium Sulphate—
Holland, £200 Ohlenschlager Bros.

Ammonium Muriate—
Holland, £130 A. & M. Zimmermann

Antimony (Regulus)—
N.S.W., 4 t. Leach & Co.

Antimony (Crude)—
Germany, 23 t. Quirk, Barton & Co.

Antimony Ore—
N. Zealand, 6 t. Union Ltge. Co.

Argols—
Spain, 562 brls. J. B. Jacob & Sons
,, 45 cks. Thames S. T. & L. Co.
Italy, 437 bgs. J. B. Jacobs & Sons

Arsenic—
Spain, £330 Charles & Fox

Asbestos—
U.S.A., 2 t. 5 c. Deering & Robottom

Barytes—
Belgium, 231 cks. Felton & Crepin
,, 300 bgs. Crepin
,, 52 cks. Perkins & Homer
,, 72 Taylor Bros.
,, 71 W. Harrison & Co.
,, 22 Petri Bros.

Barytes—
Holland, 46 cks. O'Hara & Hoare
,, 43 100 bgs. W. Harrison & Co.
,, 158 520 Felton & Crepin
,, 68 J. Greig
,, 80 Phillipps & Graves
,, 24 O Lechla
Germany, 664 G.G. France's
,, 40 Taylor Bros
,, 360 Luke & Bailey

Barium Peroxide—
Germany, £38 London & Rhine S. Office

Basic Slag—
Belgium, 380 t. Anglo Cont. Guano Wks.
France, 2 Bennett's S.S. Co.

Bleaching Powder—
Holland, 14 W H Muller & Co.

Bismuth—
Germany, 3 t Argo S S Co.

Bismuth Carbonate—
Germany, £76 T H Lee

Bog Ore—
Holland, 478 t. W. Hawkins & Co.
Belgium, 250 J. Harrison & Co.

Bones—
Argentine R, 14 t. J. Nelson & Son

Borax—
Germany, 1 t. 10 c. A. & M. Zimmermann

Calcium Carbide—
France, 52 t. J. Harrison & Co.

Camphor—
Japan, 10 cs. H. Irven & Co.
U.S.A., 30 Stallman & Fulten
France, 50 S. Figgis & Co.
Germany, 1 ck. Prop. Hay's Wf.

Caoutchouc—
France, 3 c. L. & I. D. Jt. Co.
,, £11 Weber, Smith & Hoare
,, 4 Shaw, Adams & Co.
Aden, 12 L. & I. D. Jt. Co
,, 18 Clarke & Smith

Caoutchouc—
Germany, 6 c. France, Fenwick & Co.
,, 1 t. 4 Props. Bull Wf.
,, 2 11 Clarke & Smith
,, 1 L. & I. D. Jt. Co.
,, 7 Prop. Hay's Wf.
Burmah, 16 2 L. & I. D. Jt. Co.
,, 2 1 S. Figgis & Co.
,, 5 Prop. Hay's Wf.
,, 1 Lyall, Anderson
,, 3 L. & I. D. Jt. Co.
Straits, 4 20 Prop. Hays Wf. L'd.
,, 5 Jewesbury & Co.
,, 3 Props. Bull Wf.
,, 2 7 L. & I. D. Jt. Co.
Ceylon, 7 Hoare, Wilson & Co.
,, 2 L. & I. D. Jt. Co.
,, 9 Leach & Co.
,, 10 Lewis & Peat
,, 1 Crabbe & Co.
,, 3 Props Bull Wf.
E. Indies, 18 W. H. Smith
,, 15 Lewis & Peat
,, 2 5 Props. Bull Wf.
Aden, 2 Baxter, Hoare & Co.
,, 4 Props. Bull Wf.
Natal, 3 L. & I. D. Jt. Co.
U.S.A., 6 5 Props. Bull Wf.

Carbon Tetrachloride—
Germany, £35 Fuerst Bros.

Castor Oil—
France, 15 cs. Litchfield & Soundy
,, 15 bls. Weber, Smith & Hoare
Belgium, 48 brls. Fuerst Bros.
,, 1 cs. ,,
E. Indies, 88 cks. Layzer, Irvine & Co.
France, 15brl. 40 F. Boehm
Italy, 30 ,,

Castor Oil—
France, 10 brls. Mordaunt Bros.
,, 25cs. R. Warner & Co.
,, 12 Litchfield & Soundy
Italy, 25 ,,
France, 5 cks. 5 L. & I. D. Jt. Co.

Caustic Potash—
France, 28 dms. J. Barber & Co.
Germany, 36 R. Waters

Chalk (French)—
France, £21 J. Harrison & Co.
,, 82 Atkins & Nisbet

Chemicals (*otherwise undescribed*)
Holland, £160 W. H. Muller & Co.
,, 6 A. & M. Zimmermann
,, 80 B. & F. Wf. Co.
,, 1 890 L. A. Smith
Belgium, 95 Reitmayer & Co.
,, 14 Leach & Co.
,, 5 D. C. Thomas & Sons
,, 9 J. Harrison
,, 12 J. Cockerill Line
,, 7 J. Harrison
Germany, 138 T. H. Lee
,, 269 A. & M. Zimmermann
,, 58 Argo S.S. Co.
,, 30 L. & I. D. Jt. Co.
,, 10 E. J. Brash
France, 100 W. Smith
,, 27 J. Barber
,, 15 H. Johnson, Sons & Co.
,, 12 J. Harrison
,, 13 G.T. Symons & Co
Norway, 210 W. Smith
U.S.A., 400 B. & F. Wf. Co.
Germany, 7 c. D. C. Thomas & Sons

Cinchona Bark—
E. Indies, 59 bls. Beresford & Co.
,, 97 Hoare, Wilson & Co.
,, 99 Weber, Smith & Hoare
Ceylon, 9 brls. M. P. Evans & Co
Holland, 325 J. W. Cook & Co.

Chromium—
Holland, 6 cs. J. Barker & Co.

Citric Acid—
Holland, 2 cks. Kirkpatrick, Barr & Co.

Coal Products—
Carbolic Acid
Holland, 50 cks. J. Owen
Holland, 100 Hollinghurst & Co

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Coal Products—

Aniline		
Germany,	16 pks.	L. & I. D. Jt. Co.
Belgium,	2 cks 2 cs.	Leach & Co.
,,	35 pks.	J. Cockerill Line
Pitch		
N. Russia,	400 brls.	London Oil Stge. Co.
,,	100	H. Grey, Jnr.
,,	810	Linck, Moeller & Co.
,,	150	Union L. Co.
Denmark,	33	Fellows, Morton & Co.
Germany,	27	P. J. Johnson
N. Russia,	40	S. Weller
Tar		
Germany,	100 brls.	Linck, Moeller & Co.
N. Russia,	213	London Oil Stge. Co.

Copper Ore—

Spain,	258 t.	C. Tennant, Sons & Co.
Straits,	130	H. Grey, Jnr.
P.E. Africa,	49	Bullard, King & Co.

Cottonseed Oil—

U.S.A.,	14 cs.	L. & I. D. Jt. Co

Cream of Tartar—

France,	9 cks. 5 kgs.	B. & F. Wf. Co.
,,	20	W. Bacon & Co.
,,	12	,,
,,	10	Kirkpatrick, Barr & Co.
Holland,	5	G. S. N. Co.
,,	20	W. Bacon & Co.
Italy,	1 8	B. & F. Wf. Co
,,		

Dextrine—

Holland,	3 t.	J. Barber & Co.
Germany,	10	M. Dk. Co.

Diamidophenyl—

Belgium,	£160	J. Cockerill Line

Dyestuffs—

Cochineal		
Canary Isl,	3 bgs.	Swanston & Co.
,,	5 bgs.	L. & I. D. Jt. Co.
Divi Divi		
E. Indies,	139 bgs.	Hoare, Wilson & Co.
Fustic		
A. Hungary,	10 t.	L. & I. D. Jt. Co.
Gambier		
Straits,	270 bls.	Leach & Co.
,,	250	J. Greig
Indigo		
E. Indies,	20 chts.	Parsons, Keith & Co.
,,	8	Hands, Angel
,,	25	L. & I. D. Jt. Co.
,,	22	H. J. Perlbach & Co.
,,		
Logwood		
France.	20 cs.	H. & J. Dutfield
Myrabolans		
E. Indies,	501 bgs.	France, Fenwick & Co.
,,	348	Maritime Ltge Co.
,,	300	Props. Bull Wf.
,,	1,137 pks.	Wrightson & Son
,,		
Quebracho		
Argentine R.	193 bgs.	Tennant's Wf.
Sumac		
Italy,	20 bgs.	H. Johnson, Sons & Co.
Tanners' Bark		
Cape Town,	10 t.	Page, Son & East
,,	5	J. Graves
Natal,	5	Sollas & Son
,,	14	J. J. Williamson & Son
,,	393	Bullard, King & Co.
Tannin Extract		
Germany,	20 cks.	Prop. Hay's Wf.
Turmeric		
E. Indies,	160 bgs.	H. J. Per bach & Co.

Explosives (*otherwise undes.*)—

Germany,	£1,375	Noral Powder & Ammunition Co.
,,	269	J. R. Watson & Co.

Farina—

Holland,	57 t. 8 c.	J. Barber
,,	5	Van Dam & Co.
,,	20	Bennett's Haulage Co
Germany,	1 t.	M. Dk. Co.

Gelatine—

Germany,	£36	L. & I. D. Jt. Co.
Belgium,	20	Atkins & Nisbet
,,	77	J. Cockerill Line
Holland,	11	W. H. Muller & Co.

Glanz Gold—

Belgium,	£170	J. Cockerill Line

Glue—

Belgium,	12 c	J. Harrison
,,	£124	Leach & Co.
,,	988	T. M. Duche & Sons
Holland,	80	O. Lechla
,,	166	Van Dam & Co.
,,	5	Hernu, Peron & Co
U.S.A.,	50	L. & I. D. Jt. Co
Germany,	50	,,
,,	60	Craven Bros.
S. Russia,	135	L. & I. D. Jt. Co.
N. Russia,	6	Venesta, Ld.
U.S.A.,	191	W. Davis
Germany,	143	London & Rhine S. Office
Holland,	21	W. H. Muller & Co.
France,	420	Bennett's S.S. Co.
Belgium,	340	T. M. Vache & Sons
France,	20	G. T. Symons & Co.
Denmark,	15	United S. Co.

Glucose—

U.S.A.,	13 c.	

Glue Stock—

Italy,	5 t. 4 c.	H. C. Staples
,,	10	D. C.
Belgium,		Thomas & Sons

Glycerine—

Holland,	£215	Fuerst Bros.
,,	39	W. H. Muller & Co.

Gold Concentrates—

N. Z.,	£1,512	H. J. Enthoven & Sons

Galena Ore—

P.E. Africa,	13 t.	M. Harris & Son

Gutta Percha—

Straits,	10 t. 10 c.	L. & I. D. Jt. Co.
,,	10 12	Cole, Carey
,,	9	Props. Bull Wf.
,,		

Lead Ashes—

N. Russia,	14 t.	International Trans. Co.

Linseed Oil—

Belgium,	23 dms.	J. W. Cook
Holland,	113 brls.	Knowles Spencer & Son

Lithopone—

Germany,	40 cks	J. F. Landerdale
Holland,	28	W. Ostermann & Co
,,	40	J. D. Budd
,,	8	Burrel & Co

Magnesite—

Holland,	£45	Price's Patent Candle Co.

Manure—

Belgium,	150 t.	Hollinghurst & Co.
E Indies,	10	H. J. Perlbach & Co.

Methylic Alcohol—

U.S.A.,	100,000 gls.	H. G. Brown

Mineral White—

France,	£64	Blackwell, Sons & Co.

Molasses—

U.S.A.,	78 t. 14 c	

Olive Oil—

France,	126 g.	Schoaker & Co
,,	180	Litchfield & Soundy
,,	240	1 t. L. & I. D. 132gls. Jt. Co.
,,	240	Gill & Duffus
,,	55	Hernu, Peron & Co.
,,		2 t. C. E. Morton
Holland,	32 t.	Nich.'s Wvs
Italy,	70 2	L. & I. D. Jt. Co.

Oxalic Acid—

Holland,	6 cks.	R. W. Greeff & Co.
,,	10	T. H. Lee

Paraffin Scale—

U.S.A.,	316 t. 2 c.	Anglo-American Oil Co.

Paraffin Wax—

Holland,	5 t.	Wilkins, Campbell & Co.
Burmah,	20	H. Hill & Sons
Germany,	3	T. H. Lee
U.S.A.,	365 11 c.	Anglo-American Oil Co.
,,	13 10	L. & I. D. Jt. Co.

Plumbago—

Ceylon,	260 brls.	Branwell & Co.
,,	552	Thredder, Sons & Co.
E. Indies,	18 cks.	Hoare, Wilson & Co.
Ceylon,	67	G. & H. Green
,,	176	Hoare, Wilson & Co.
,,	91	France, Fenwick & Co.
U.S.A.,	3 kgs.	Simpson, Spence & Co.
Ceylon,	4 brls.	L. & I. D. Jt. Co.

Potassium Carbonate—

Germany,	19 cks.	Petri Bros.
,,	18	F. Fink & Co.
,,	4	Charles & Fox
Belgium,	10 brls.	Beresford & Co.
U.S.A.,		
Canada,	10	Charles & Fox

Potassium Chlorate—

France,	215 cks.	C. Murray & Co.
Sweden,	25 kgs.	G. Boor & Co.

Potassium Iodide—

Japan,	£497	L. & I. D. Jt. Co.

Potassium Metasulphite—

Germany,	£42	A. & M. Zimmermann

Potassium Permanganate—

Germany,	42 kgs.	L. & I. D. Jt. Co.

Potassium Prussiate—

Belgium,	4 cks.	J. Owen

Quinine—

Holland,	26,000 ozs.	J. Barber & Co.

Red Lead—

Germany,	18 cks.	Randall Bros.
Belgium,	41	C.S. Lovell & Sons
France,	40 brls.	J. Watt & Son

Ripolin—

Holland,	10 cts. 27 cs.	Phillipps
,,	11 dms.	& Graves

Rosin—

Germany,	17 bls.	London & Rhine S. Office
France,	50 brls.	G. S. N. Co.
,,	3	B. & F. Wf. Co.

Salicylic Acid—

Germany,	5 cs.	T. H. Lee

Saltpetre—

Germany,	60 t. 10 c.	P. Hecker & Co.
,,	10	L. & I. D. Jt. Co.

Silver Concentrates—

N.Z.,	£1,620	H. J. Enthoven & Sons

Silver Nitrate—

Germany,	£378	T. H. Lee

Silver Ore—

U.S.A.,	7 t.	B. Ackerley & Son

Soap—

N.S.W.,	£75	Lucas & Spencer's Wf.
France,	23	Mory & Co.
,,	33	Beresford & Co.
,,	460	Lucas & Spencer's Wf.
,,	195	Pronk, Davis & Co.
Holland,	31	W. H. Muller & Co.
U.S.A.,	80	Lunham & Moore
,,	86	Armour & Co.
,,	452	Amer. Exp. Co.
,,	600	W. Davis
,,	500	Butler & Crispe
,,	9	Field & Co.
,,	516	Mertens & Co.
Germany,	12	L. & I. D. Jt. Co.

Soap Powder—

Holland,	£40	W. H. Muller & Co.

Soda Crystals—

Holland,	20 t.	P. Windmuller & Co.
Belgium,	20	G. H. Clippingdale
Holland,	145	W. H. Muller & Co.

Soda (*otherwise undescribed*)—

Belgium,	4 t.	Forwood, Bros. & Co.
Germany,	2	R.W. Greeff & Co.
,,	8	C. Zimmermann & Co.
,,	17 c.	A. & M. Zimmermann
Holland,	1	,,
,,	1	H. Lorenz
,,	11 10	W. H. Muller & Co.
Sweden,	1	G. Boor & Co.
Holland,	2 4	Eyres
,,	5 6	London & Rhine S. Office

Sodium Acetate—

France,	9 t.	J. Harrison

Sodium Bichromate—

Belgium,	10 t.	F. W. McKenzie

Starch—

Holland,	12 t 10 c.	J. Barber
Belgium,	2	B. & F. Wf. Co.
,,	1	4 Leach Bros.
Holland,	23 14	Little & Johnston
,,	25	W. H. Muller & Co.
,,	1	Kay & Mayo
France,	4	10 C. E. Wood
,,	12	E. & T. Pink
,,	5	A. C. Hitchcock
Belgium,	5 14	J. Harrison & Co.
,,	11 10	E. & T. Pink
,,	5	5 Leach & Co.

Stearine—

Belgium,	6 bgs.	Harris & Co.
,,	63	Hill & Sons
,,	63	Meyerstein & Co.
Germany,	36 pks.	T. H. Lee

Sulphur—

Italy,	42 t.	L. & N. W. Rly
,,	10	W. J. Cook
,,	70	G. Boor & Co.
,,	5	C. & E. Morton
,,	10	Sparks, White & Co.
,,	25	2 c. F.C Devon & Co.
,,	21	5 T. R. G. P. & T. W. Co.
,,	25	A. Zumbeck & Co.
,,	13	A. L. Young & Co.
,,	146	9 Vokins & Co.
,,	10	J. Kitchin
,,	20	W. J. Crook
,,	10	Sheppy Glue Chemical Wks.
,,	5	W. C. Bacon & Co.
,,	24	15 Fuerst Bros.
,,	61 10	Jessop & Co.

Tallow—

Queensland,	169 cks.	Goad, Rigg & Co.
,,	27	E. Letnntoo
,,	27	E. L. Annoot
,,	18	Bk N. Z.
N. Zealand,	32	Humphrey & Co.
,,	52	G. R. Haller
,,	254	Thornett & Fehr
,,	44	Weber, Smith & Hoare
,,	638	Anning & Cobb
,,	300	Dalgety & Co.
,,	29	Flack, Chandler & Co.
,,	290	Goad, Rigg & Co.
,,	208	Morrison & Co.
,,	30	L. & I. D. Jt. Co.
,,	3	Sanderson, Murray & Co.
,,	320	N.Z. L. & M.A.Co.
,,	135	Phillipps & Graves
,,	409	L. & I. D. Jt Co.
,,	463	Goad, Rigg & Co.
,,	61	Leach & Co.
,,	1,100	New Sun & Vanes Wvs.
,,	60	Mordaunt Bros.
,,	61	Leach & Co.
,,	294	J. Owen

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Tallow—
Argentine R., 20 cks. L. & I. D. Jt. Co.
" 928 Bessler, Waechter & Co.
" 185 Phillipps & Graves
Belgium, 12 20 cs. J. Harrison
U.S.A., 21 W. H. J. Alexander
China, 84 Mordaunt Bros.

Tallow (Vegetable)—
China, 1,400 pks. Lucas & Spencer's Wf.
" 78 Cook & Co.
" 950 Phillipps & Graves
" 530 Thornett & Fehr
" 1,820 Colchesters, Woolner

Tartar—
Italy, £600 J. W. Cook & Co.

Tartaric Acid—
Holland, 3 cks. F. C. Devon & Co.
" 1 Van Dam & Co.
" 5 Bryce, Son & Co.
Italy, 13 brls. Reitmayer & Co.
France, 20 kgs. B. & F. Wf. Co.

Thorium Nitrate—
Germany, £210 T. H. Lee

Tin Ore—
Spain, 7 t. Hoare, Wilson & Co.
N.S.W., 5 "
Spain, 12 Props. Bull Wf.

Turpentine—
N. Russia, 231 brls. P. J. Denschewsky
" 1332 London Oil Storage Co.
Germany, 52 "
Holland, 55 S. Bowler & Sons
France, 50 J. Watt & Son

Ultramarine—
Holland, 9 pks. W. H. Muller & Co.
" 2 cs. "
Germany, 1 Argo S. S. Co.
" 1 ck. "
Holland, 1 "

Wax—
B. W. Indies, 3 pks. Weber, Smith & Hoare
Germany, 68 202 brls. T. H. Lee
" 57 bls. 5 cs. "
" 25 cs. W. W. Smith & Sons
" 20 bgs. London & Rhine S. Office
" 1 3 cs. L. & I. D. Jt. Co.
" 40 P. J. Johnson
Holland, 20 W. H. Muller & Co.
" 5 bls. 2 cs. T. H. Lee
U.S.A., 50 brls. W. Davis
" 8 cs. Davis, Turner & Co.
Aden, 5 Major & Field
Morocco, 51 bgs. Forwood, Bros. & Co.
Spain, 10 bls. Lewis & Peat
Egypt, 49 pks. Major & Field
Belgium, 20 cs. Thomas & Son

White Lead—
Germany, 53 cks. Spies, Bros. & Co.
Holland, 28 Felton & Crepin
Germany, 5 Argo S.S. Co.
Holland, 2 W. H. Muller & Co.
Belgium, 37 J. L. Lyon & Co.
Germany, 31 Perkins & Homer
U.S.A., 37 brls. J. Watt & Son
" 73 Fenner, Alden & Co.

Wolfram Ore—
Spain, 28 t. Hoare, Wilson, & Co.

Vanillin—
France, £163 Mory & Co.
Germany, 415 L. & I. D. Jt. Co.

Zinc Oxide—
U.S.A., 600 brls. M. Ashby
Germany, 50 "
Belgium, 10 J. L. Lyon & Co.
France, 100 R. Herrmann

Zinc Oxide—
Germany, 125 cks. Spies, Bros. & Co.
Holland, 20 Dowgate Dk.

Zinc White—
Holland, 20 cks. Felton & Crepin
Germany, 25 London & Rhine S. Office

LIVERPOOL.

Week ending July 25

Acetone—
Hamburg, 10 dms.

Alum (Chrome)—
Antwerp, 8 brls.

Aluminium—
New York, 1 cs.
Quebec, 186 bxs.
Havre, 250 bgs. Cunard S.S. Co. Ltd.

Antimony Ore—
Gibraltar, 595 bgs.
Smyrna, 867
Melbourne, 1,481

Arsenic—
Melbourne, 84 cks.

Barium Sulphate—
Antwerp, 50 bgs.
3 cks.

Beeswax—
Bathurst, 17 pks. Cie Francaise
" 43 bls. A. Cros & Co.

Castor Oil—
Antwerp, 14 brls.

Citric Acid—
Hamburg, 10 kgs.

Coal Products—
Aniline Colours
Rotterdam, 18 cs.

Colours—
Marseilles, 10 cs.
Stettin, 15 cks.
Rotterdam, 11 3

Copper Ore—
Brisbane, 1,438 bgs.
Bordeaux, 172 R. J. Francis & Co.

Copper (Precipitate)—
Brisbane, 107 cks.
Pomaron, 4 cs. 13,443 bgs.

Cottonseed Oil—
New York, 250 brls.

Cream of Tartar—
Marseilles, 2 cks.
Bordeaux, 44

Dried Blood—
Campana, 270 bgs. River Plate F. M. Co.

Dyestuffs—
Quebracho Extract
B. Ayres, 1,820 bgs.
Tannin Extract
Marseilles, 60 cks. J. Smith
" 300
Bordeaux, 959 R. J. Francis & Co.
Bayonne, 365 "
Genoa, 500 brls.

Farina—
Stettin, 60 bgs.

Felspar—
Stettin, 200 bgs.

Formaldehyde—
Stettin, 6 brls.

Glue—
Rouen, 11 cks. Co-op. W'sale Soc., Ltd.
Marseilles, 40 bls. Globe Chemical Co.
" 51
Sydney, 131
Antwerp, 20 bgs. Fletcher & Co.

Glycerine—
Campana, 6 dms. River Plate F. M. Co.
Adelaide, 11

Gold Quartz—
Nantes, 104 t. R. J. Francis & Co.

Mineral White—
Bordeaux, 700 bgs. R. J. Francis & Co.
Genoa, 100

Olive Oil—
Bari, 55 cs. Canadian Pacific Rly. Co.
Smyrna, 805 brls
Genoa, 377
Bordeaux, 301 200 dms.

Paraffin Scale—
Rangoon, 800 bgs.

Phosphate—
Sfax, 2,250 t.

Plumbago—
Colombo, 52 brls.
Genoa, 200 bgs.

Potash Lye—
Hamburg, 20 dms.

Pyrites (Iron)—
Huelva, 3,502 t.

Quinine—
Rotterdam, 1 cs.
Hamburg, 28 bls.

Rosin—
Pensacola, 8,500 brls.
Bayonne, 994 cks. R. J. Francis & Co.
Bordeaux, 192

Rubber—
Amsterdam, 48 cs.
Assini, 2 cks.
Attuaboc, 2 Miller's, Ld.
Benin, 13 Miller Bros. & Co.
Bereby, 2 Woodin & Co.
Duala, 9 J. Holt & Co.
Forcados, 1 Paterson, Zochonis & Co.
G. Bassa, 8 Liberian Rubber Co.
Hamburg, 41
Lahou, 19 R. & W. King
" 11 Cie Fran de Kong
Monrovia, 1 Liberian Rubber Co.
Saltpond, 1 Russell & Co.
" 2 Fischer & Co., Ld.
" 1 African Assn.
Sekondi, 2 Miller's, Ld.
S. Leone, 6 Pickering & Berthoud
Sinoe, 2 Taylor & Co. Berthoud
Winnebah, 5 F. & A. Swanzy
" 5 J. P. Werner
Bathurst, 5 brls. Cie Francaise
" 9 A. Cros & Co.
Bordeaux, 29 bgs
Caballo Cocha, 41 cs
Calabar, 1 bx. Miller Bros & Co.
Cape Coast, 1 brl. H. W. B. Russell
Cartagena, 2
Conakry, 11 bls. Paterson, Zochonis & Co.
" 12 Fischer & Co.
" 2 Union Af. Co.
" 5 3sks. French & Co.
" 4 Diaper & Co.
" 1 Walkden & Co.
" 10 Broadhurst,
" 3 pks. Sons & Co.
Ghent, 2 cs
G. Bassam, 1 brl. Oliver & Co.
Iquitos, 24 cs.
Manaos, 508
Marseilles, 41
N. York, 194 49 bls. 8 brls.
Sherbro, 1 Soc. Com. de Oust Af.
" 1 Cie Francais
Rotterdam, 1 cs.
S. Leone, 3 pks. Ratcliffe & Co.
" 1 pn. French & Co.
Warri, 2 bgs. G. Christian

Salt—
Hamburg, 240 t.

Saltpetre—
Hamburg, 30 kgs.

Salt (Waste)—
Hamburg, 125 cks.

Sheep Dip—
Wellington, 7 cs.

Soap—
Boston, 14 cs.
Marseilles, 113 cs. J. Smith
N. York, 10 3 bxs. 99 brls.

Starch—
Antwerp, 80 cs. Fletcher & Co.
Bordeaux, 150 cks.
Ghent, 8 "
Rotterdam, 60

Stearine—
Campana, 100 bgs. River Plate F. M. Co.
Antwerp, 63 Fletcher & Co.

Tallow—
Rouen, 30 bgs. Co-op. W'sale Soc. Ltd.
New York, 450 hhds.
B. Ayres, 883 cks.
Sydney, 210 Co-op. W'sale Soc., Ltd.
" 43
Boston, 50 tcs.
P'delphia, 410 115 brls.

Tartaric Acid—
Marseilles, 20 cks.
Bordeaux, 4

Turpentine—
Havre, 1 pk. Cunard S.S. Co. Ltd.

Ultramarine—
Rotterdam, 20 cks.

Wax—
Conakry, 2 pks. Pickering & Berthoud
" 59 Paterson, Zochonis & Co.
" 16 Diaper & Co.
" 40 bls. French & Co.
Philadelphia, 388 brls.

Zinc Oxide—
Rotterdam, 17 cks.
New York, 750 brls.
Antwerp, 8

MANCHESTER.

Week ending July 27.

Alcohol (Wood Spirit)—
Hamburg, 5 dms.

Antimonin—
Rotterdam, 12 cks.

Antimony Salt—
Hamburg, 1 ck. 15 cs.

Asbestos—
Genoa, 8 pks. 38 bls.

Barytes—
Treport, 16 cks
Rotterdam, 300 bgs.

Beeswax—
New York, 16 cs.
Rotterdam, 3

Calcium Carbide—
Treport, 445 dms.

Castor Oil—
Leghorn, 19 cs.

Chalk—
Treport, 10 cs.

Chemicals (*otherwise undescribed*)
Treport, 16 cks.
Rouen, 16
Rotterdam, 61 4 cs. 12 pks.
Antwerp, 8
Genoa, 8 brls.
Hamburg, 24

Coal Products—
Alizarine
R'tterdam 133 brls. 30 cks.
Aniline Colours
Rotterdam, 45 cs.
Aniline Oil
Rotterdam, 62 dms.
Creosote Salts
Rotterdam, 6 cks.
Cresylic Acid
Rotterdam, 10 cks.

Colours—
Rouen, 143 cks.
Antwerp, 1 Fletcher & Co.
Rotterdam, 212 brls. 9 45 cs.

Dextrine—
Stettin, 125 bgs.

Dyestuffs—
Indigo Paste
Rotterdam, 65 brls.

Soap—
Marseilles, 113 cs. J. Smith
N. York, 10 3 bxs. 99 brls.

Starch—
Antwerp, 80 cs. Fletcher & Co.
Bordeaux, 150 cks.
Ghent, 8 "
Rotterdam, 60

Stearine—
Campana, 100 bgs. River Plate F. M. Co.
Antwerp, 63 Fletcher & Co.

Tallow—
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New York, 450 hhds.
B. Ayres, 883 cks.
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" 43
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Dextrine—
Stettin, 125 bgs.

Dyestuffs—
Indigo Paste
Rotterdam, 65 brls.

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Dyestuffs—
Tannin
Antwerp, 5 cks. Fletcher & Co.

Farina—
Rotterdam, 3,778 bgs.
Stettin, 1,525

Felspar—
Stettin, 200 bgs.

Ferro Silicon—
Treport, 31 cks.

Formaldehyde—
Rotterdam, 10 b'ns.

Glucose—
New York, 1,620 brls.

Glue—
Antwerp, 5 cks. Fletcher
10 brls. & Co.
" 80
Boston, 15
Christiania, 20 bgs.
Genoa, 20
Treport, 9
Rouen, 20 27 pks.
9 cs.

Litharge—
Rotterdam, 53 cks.

Mineral White—
Bordeaux, 150 bgs.

Olive Oil—
Leghorn, 190 bxs 5 cs

Oxalic Acid—
Hamburg, 10 cks.

Paraffin Scale—
N. York, 580 brls.
200 cs.

Potash—
Hamburg, 30 dms.

Potassium Chlorate—
Treport, 40 cks. 5 dms.

Potassium Prussiate—
Antwerp, 9 cks.

Pyrites—
Huelva, 2,365 t.

Pyrites (Iron)—
Pomaron, 1,410 t.

Quartz—
Stettin, 204 bgs.

Rosin—
Bordeaux, 50 cks.
New York, 500 brls.

Rubber—
Treport, 6 cks.
Antwerp, 19 brls Fletcher & Co.

Salt (Waste)—
Hamburg, 200 t.

***Soap*—**
Genoa, 130 cs.
7 brls.
New York, 35 bxs.

***Sodium Acetate*—**
Antwerp, 36 cks. Fletcher & Co.
" 16 brls.

Sodium Chlorate—
Gothenburg, 8 cks. 20 kgs.
Treport, 142 29 cs.

Sodium Phosphate—
Antwerp, 14 brls Fletcher & Co.

***Sodium Prussiate*—**
Rotterdam, 12 cks

Starch—
Antwerp, 318 cs. Fletcher & Co.
" 400
Hamburg, 33
N. York, 2,250 bgs.

Stearine—
Rotterdam, 13 brls.
Antwerp, 63 bgs.

Turpentine—
Riga, 10 brls.

***Ultramarine*—**
Rotterdam, 8 cks.
21 cs.

Wax—
New York, 280 brls.

Zinc Oxide—
Rotterdam, 4 cks.
Antwerp, 40 brls Fletcher & Co.

Zinc White—
Rotterdam, 20 cks.

HULL.

Week ending July 27.

Acetic Acid—
Rotterdam, 32 cks. Hull & N. S.S. Co.

Aluminium Sulphate—
Ghent, 70 bgs.

Barytes—
Antwerp, 168 cks.
Rotterdam, 44 H. & B. Rly. S.S. Line
Holland, 40 Hull & N. S.S. Co.
Rotterdam, 22 Hull & N. S.S. Co.

Calcium Carbide—
Christiania, 20 dms. Wilson, Sons & Co. Ld.
Drontheim, 156 kgs.

Chemicals (*otherwise undescribed*)
Rotterdam, 4 cks.7 cs. Hull & N. S.S Co.
Dunkirk, 180 Woodhouse & Co.
Rotterdam, 6 H & B Rly. S.S. Line

Coal Products—
Alizarine
Rotterdam, 7 cs. H. & B. Rly. S.S. Line
Aniline
Rotterdam, 267 cks. Hull & N. S.S. Co.
Aniline Dye
Rotterdam, 4 cks.3 cs. H. & B. Rly. S.S. Line
Tar Oil
Rotterdam, 40 cks. Hull & N. S.S. Co.

Colours—
Rotterdam, 32 cks.1 cs. H. & B. Rly. S.S. Line
Antwerp, 81 pks. Wilsons & N.E. R. S. Co.
" 54

Dyestuffs—
Indigo
Rotterdam, 8 brls. Hull & N. S.S. Co.
Myrabolans
Bombay, 2,510 bgs.

Farina—
Stettin, 195 bgs.

Ferro Chrome—
Dunkirk, 10 cks. Wilsons & N.E. R. S Co.

Glucose—
Rotterdam, 80 bgs. Hull & N. S.S. Co.

Glue—
Rotterdam, 5 bgs. Hull & N. S.S. Co.

Gutta Percha—
Hamburg, 5 bls. Wilsons & N.E. R. S. Co.

Lead Acetate—
Stettin, 3 cks. Wilson, Sons & Co. Ld.

Linseed Oil—
Rotterdam, 6 cs. Hull & N. S.S. Co.

Manganese Muriate—
Hamburg, 45 cks. Wilsons & N.E. R. S. Co.

Potash—
Antwerp, 55 cks.
Dunkirk, 41 dms.

Red Lead—
Rotterdam, 29 cks. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 190 bgs.

Starch—
Antwerp, 202 cs. 4 bgs.
Ghent, 114
Hamburg, 1 kg.
Bremen, 10 cks. Veltmann & Co.
2,182

Stearine—
Antwerp, 63 bgs. Wilson, Sons & Co Ld.

Ultramarine—
Bremen, 6 cks.

White Lead—
Rotterdam, 76 cks. Hull & N. S.S. Co.

Zinc Dust—
Antwerp, 7 brls. Wilsons & N.E. R. S. Co.

Zinc White—
Rotterdam, 25 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending August 1.

Acetic Acid—
Antwerp, 19 cks. 26 crbys.
Rotterdam, 14 blns.

Albumen—
Hamburg, 2 cs.

Alcohol (Wood Spirit)—
Boston, 100 brls.

Alumina—
Amsterdam, 90 bgs.

Ammonia—
Hamburg, 100 cylndrs.

Arsenic—
Bilbao, 30 brls. H. Ottmann

Barium Sulphate—
Antwerp, 20 cks.

Barytes—
Rotterdam, 200 bgs.

Bleaching Powder—
Hamburg, 34 cks.

Bone Meal—
Cronstadt, 708 bgs.

Calcium Carbide—
Gothenburg, 150 dms.

Castor Oil—
Leghorn, 45 cs.
Antwerp, 28 brls.

Chemicals (*otherwise undescribed*)
Marseilles, 2 cks.
Bilbao, a qnty.
Montreal, 21 brls.
Hamburg, 9

Citric Acid—
Bordeaux, 18 cks.

Coal Products—
Alizarine
R'tterdam, 33 pks.
45 brls.
Aniline
Rotterdam, 25 crts.
Naphthol
Rotterdam, 3 cks.
10 brls.
Tar Salt
Rotterdam, 1 ck.

Colours—
Rotterdam, 204 pks.
Amsterdam, 4 cks.
Hamburg, 3 cs.

Cream of Tartar—
Christiania, 10 brls.
Valencia, 21
Marseilles, 10 cs.

Dyestuffs (*otherwise undescribed*)
Boston, 2 pks.

Dyestuffs—
Indigo
Rotterdam, 10 brls.
Logwood
Norway, 625 t. British Logwood Co.
Myrabolans
Calcutta, 1,000 pkts.
Oak Extract
Fiume, 381 brls.
Tannin
Rotterdam, 1 cs.

Farina—
Hamburg, 100 bgs.
Delfzyl, 1,938

Ferro Silicon—
Antwerp, 16 cks.

Glue—
Rotterdam, 10 cs.

Linseed Oil—
Rotterdam, 85 brls.
Delfzyl, 119 cks.

Litharge—
Rotterdam, 6 cks.

Lithopone—
Rotterdam, 20 cks.

Magnesite—
Fiume, 3,219 bgs.

Manure—
Christiania, 20 cks.

Mineral White—
Fiume, 510 bgs.

Molasses—
Amsterdam, 123 bskts.

Nickel Ore—
Pouembout, 15 c. Nickel Co.
2,330 t.
"

Oleine—
Antwerp, 31 brls.

Olive Oil—
Marseilles, 1 ck. 12 cs.
Leghorn, 1 50

Oxalic Acid—
Hamburg, 21 cs.

Paraffin Wax—
Calcutta, 94 bgs.

Potash—
Hamburg, 40 cks.

Potassium Bioxalate—
Hamburg, 5 cks.

Potassium Muriate—
Hamburg, 2,000 bgs.

Pyrites (Copper)—
Huelva, 2,200 t.

Red Lead—
Christiania, 1 ck.
Rotterdam, 20

Rosin—
Nantes, 14 cks.
Philadelphia, 782 brls.

Salt (Waste)—
Hamburg, 120 t.

Soap—
Fiume, 151 cs.
N. Orleans, 368 brls.
Genoa, 20
Boston, 4

Soap Oil—
Antwerp, 30 brls.

Soap Stock—
N. Orleans, 510 brls.

Soda Crystals—
Antwerp, 30 bgs.

Sodium Acetate—
Antwerp, 18 cks.

Starch—
Boston, 215 cks.
860 bgs.

Sulphur—
Antwerp, 6 dms.
Catania, 34 cks.
1,610 bgs.
Antwerp. 20

Tartar—
Bordeaux, 1 ck.
Naples, 4

Tartar Emetic—
Hamburg, 1 ck.

Tartaric Acid—
Rotterdam, 10 kgs.

Tar (Wood)—
Gothenburg, 50 cks.

Ultramarine—
Rotterdam, 3 cks.

Wax (Mineral)—
Hamburg, 5 bgs.

White Lead—
Christiania, 2 cks.

Zinc Oxide—
Rotterdam, 15 cks.

TYNE.

Week ending July 27.

Barytes—
Rotterdam, 82 cks. Tyne S.S. Co.
Antwerp, 700 bgs. "

Coal Products—
Tar
Bergen, 4 kgs. P. H. Matthiessen

Colours—
Antwerp, 6 cks. Tyne S.S. Co.

Copper Ore—
Antwerp, 190 bgs.

Farina—
Amsterdam, 50 bgs. W. Swanston & Sons

Iron Ore—
Santander, 1,700 t. Consett Iron Co.

Lead Nitrate—
Antwerp, 6 brls.

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Salt (Waste)—
Hamburg, 26 cks. Tyne S.S. Co.
Silver Lead—
Malaga, 100 t.
Soap—
Antwerp, 50 cs.
Starch—
Rotterdam, 44 cs. Tyne S.S. Co.

GOOLE.

Week ending July 27.

Barytes—
Antwerp, 50 bgs.
Caoutchouc—
Boulogne, 17 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 12 brls. 135 bgs.
Amsterdam, 1 dms.
Ghent, 55
Chemicals (*otherwise undescribed*)
Hamburg, 2 cs. 20 dms. 33 brls.
R'terdam, 86 cks. 42 cs.
Coal Products—
Aniline
Antwerp, 4 cks.
Dyestuffs (*otherwise undescribed*)
Antwerp, 31 brls. 6 cs.
Boulogne, 126 cks. 4
Hamburg, 218 28 pks.
Rotterdam, 155 32
Dyestuffs—
Dyewood
Hamburg, 2,221 pieces.
Farina—
Boulogne, 1 cs.
Delfzyl, 1,110 bgs.
Rotterdam, 15
Glue—
Boulogne, 19 cs.
Oleine—
Dunkirk, 20 cs.
Pyrites (Iron)—
Drontheim, 1,200 t.
Salt (Waste)—
Hamburg, 300 t.
Starch—
Ghent, 80 cs.
Antwerp, 120
Stearine—
Antwerp, 3 brls.
Boulogne, 3 cks.

GRIMSBY.

Week ending July 24.

Albumen—
Hamburg, 1 cs.
Barium Chlorate—
Hamburg, 1 ck.
Caoutchouc—
Rotterdam, 2 bgs.
Caoutchouc—
Hamburg, 59 cs.
Antwerp, 3
Chemicals (*otherwise undescribed*)
Hamburg, 1 ck. 6 cs.
Antwerp, 20 3
Rotterdam, 14
Colours—
Hamburg, 5 cks. 23 pks.
Antwerp, 10 84
Rotterdam, 4 9
Ferro Chrome—
Dieppe, 11 cks.
Plumbago—
Antwerp, 2 cks. 1 cs.
Soda Crystals—
Rotterdam, 100 bgs.
Starch—
Antwerp, 120 cs.
Rotterdam, 10
Tartar—
Hamburg, 2 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending July 31.

Ammonia—
Karachi, 20 cs. £30
Port Sudan, 4 6
Calcutta, 10 15
Algoa Bay, 14 28
Cape Town, 14 21
Yokohama, 2 5
Trinidad, 2 6
Adelaide, 2 6
Durban, 10 05
Bari, 12 16
Paris, 8 16
Para, 2 7
Marsala, 2 dms. 25
Ammonia (Anhydrous)—
Bagdad, 1 cylndr. £7
Bombay, 30 350
Ammonium Carbonate—
Singapore, 10 cs. £33
Brussels, 1 ck. 5 kgs. 19
Penang, 15 cs. 25
Pari, 8 31
Cape Town, 4 c. 10
Brisbane, 5 cs. 9
Ammonium Nitrate—
Melbourne, 7 cks. £42
Ammonium Sulphate—
Ostend, 50 t. 15 c. £600
Maru, 200 2 2 400
Hamburg, 36 432
Antimony (Regulus)—
Odessa, 2 t. 10 c.
Riga, 7 10
Copenhagen, 10
Hamburg, 17 16
Arsenic—
N. Orleans, 93 cks. £550
Amsterdam, 1 5
Cape Town, 6 cs. 16
Galveston, 100 dms. 10
Asbestos—
Shanghai, £28
Sydney, 41
Rotterdam, 11
Basic Slag—
S. Michael's, 245 t. 2 c. £900
Bisulphite of Lime—
Brussels, 10 hhds. £8
Bleaching Powder—
H. Kong, 4 c. £6
Mauritius, 6 cs. 5
Bone Meal—
N. Orleans, 49 t. 11 c. £260
Boracic Acid—
Shanghai, 8 c. £14
Borax—
Delagoa Bay, 4 c. £6
Calcium Chloride—
Hamburg, 8 dms. £9
Camphor—
Cape Town, 1 cs. £6
Libau, 819 bls.
Caustic Soda—
Delagoa Bay, 6 c. £7
Durban, 1 6
H. Kong, 4 7
Zanzibar, 1 t. 13 18
Wellington, 9 18
Chalk—
Bordeaux, 6 t.
Bremen, 10
Boston, 200
Chemicals (*otherwise undescribed*)
Hamburg, 3 cs. £14
Townsville, 60 kgs. 48
Madras, 10 3 22 cks. 70
Ostend, 4 95
Calcutta, 2 10
Copenhagen, 5 8
Cologne, 50 74
Montreal, 5 85 233
Bremen, 2 19
Christiania, 3 70
Sarawak, 3 8
Adelaide, 4 pks. 18
Durban, 1 10
Delagoa Bay, 220 396
Gibraltar, 10 kgs. 8
Wellington, 50 22
Stettin, 16 118
Rotterdam, 2 7
Bussorah, 13 51
Naples, 1 13
Beira, 2 pks. 7
Fremantle, 14 6
Valparaiso, 10 98
Bombay, 3 19
Brisbane, 5 20
E. London, 8 42
Cape Town, 1 14
Rangoon, 3 12
Tientsin, 3 41
H. Kong, 4 120
Para, 20 15
Citric Acid—
Rotterdam, 6 c. £41
Calcutta, 1 12
Para, 6 19
Adelaide, 1 11
E. London, 3 32
Bombay, 1 9
Wellington, 2 17
Coal Products (*otherwise undes.*)
Sydney, 13 brls. £75
Coal Products—
Alizarine
Boston, 15 cks. £190
Aniline Dye
Melbourne, 1 pk. £12
Anthracene
Cologne, 325 cks. £352
Carbolic Acid
Philadelphia, 40 cks. 12 cs. £314
Madras, 2 19
Kilindini, 2 7
Copenhagen, 5 14
Toronto, 9 pks. 42
New York, 62 233
Marseilles, 10 bidons. 12
Creosote
Toronto, 10 cks. £15
Helsingfors, 100 65
Coal Products—
Mirbane
Melbourne, 10 cs. £21
Naphthaline
Calcutta, 250 cs. £119
Aden, 13 cks. 5 34
Shanghai, 50 75
H. Kong, 11 pks. 27
Copenhagen, 5 bgs. 4
Nitronapnthaline
Paris, 2 cks. £30
Pitch
Hamburg, 52 brls. £103
Hobart, 8 cs. 13
Port Sudan, 16 5
St. Malo, 175 t. 228
Helsingfors, 375 525
Rangoon, 50 kgs. 15
Tar
Singapore, 3 brls. £7
Townsville, 20 dms. 5
Delagoa Bay, 10 6
Boston, 500 320
Tar Oil
Paris, 50 brls. £39
Hamburg, 100 53
Gothenburg, 250 cks. 180
Terebine Oil
Wellington, 2 cs. £19
Copper Sulphate—
Wellington, 1 t. 5 c. £47
Cottonseed Oil—
Rotterdam, 37 t. 6 c.
Marseilles, 26
Cream of Tartar—
Brisbane, 7 c. £33
Algoa Bay, 8 32
Cyanide (*otherwise undescribed*)—
New York, 5 t. £378
Fremantle, 13 10 c. 1,179
Townsville, 1 6 116
Normanton, 2 176
Disinfectant—
Calcutta, 3 cks. 1 cs. £22 50 dms.
Madras, 130 79 pks. 117
Zanzibar, 3 cs. 6
Mauritius, 33 52
Melbourne, 10 1 30
Delagoa B., 100 200 305
Penang, 30 15
Lyttelton, 1 tk. 11 53
Cologne, 11 198
Wellington, 11 pks. 6 22
Brussels, 6 cbys. 11
Adelaide, 10 cks. 4 24
Cape Town, 12 42
Philadelphia, 25 39
Mormogoa, 4 3 6
Algoa Bay, 20 bgs. 3 13
Durban, 3 cks. 2 100 183
Gisborne, 10 17
New Plymouth, 3 7
Hamburg, 30 19
Port Sudan, 1 5
St. Jonns, 1 6
Marseilles, 16 23
Fertiliser—
Yokohama, 200 t. 5 c. £1,458
Shanghai, 5 7 40
Glycerine—
Calcutta, 5 c. £19
Seville, 2 7
New York, 29 t. 6 980
Penang, 2 7
Cape Town, 1 5
Philadelphia, 35 14 1,108
San Sebastian, 1 5
E. London, 5 11
B. Ayres, 1 56
Hydrocarbon—
Cologne, 30 dms. £450
Hydrochloric Acid—
Mauritius, 1 t. 18 c. £8
Kilindini, 2 cs. 6
Linseed Oil—
Bordeaux, 1 t. 15 c.
Calcutta, 19
Christchurch, 3
Colombo, 1
Delagoa Bay, 7 4
Demerara, 1
Durban, 305 13
E. London, 3 2
Hamburg, 10 7
H. Kong, 4 5
Jamaica, 1
Launceston, 4 8
Melbourne, 16 8
Penang, 1 16
Pernambuco, 4 9
P. Elizabeth, 3 15
Rio de Jan., 2 2
St. Vincent, 15
Singapore, 2 13
Valparaiso, 8 10
Yokohama, 4
Zanzibar, 8
Adelaide, 2 17
Azores, 1 1
Brisbane, 1 13
B. Ayres, 2 18
Busreh, 3 1
Hiogo, 5 13
Mauritius, 2 15
Montreal, 21 13
Rosario, 3
Sydney, 2 16
Tangiers, 13
Manganese Peroxide—
Santos, 4 cs. £10
Manure—
Wellington, 190 t. 18 c. £584
M. Video, 21 5 107
Palermo, 9 17 30
Lisbon, 304 2 761
Mauritius, 103 3 670
Riga, 250 12 565
New York, 2 18 42
Yokohama, 100 1 765
Genoa, 60 420
Messina, 4 28
Morlaix, 170 1,190
Nanier, 90 268
Seville, 290 950
Muriatic Acid—
Durban, 10 c. £8
Nitrate of Lime—
Kobe, 2 t. £18

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Nitric Acid—
Colombo, 5 c. £8
Oxalic Acid—
Karachi, 3 cs. £7
Phosphoric Acid—
N. York, 20 cbys. 23 cs. £186
Plumbago—
Adelaide, 4 t. 11 c.
Stettin, 5
Stockholm, 3 11
Potash—
New York, 1 t. 10 c. £106
Brussels, 18 63
Potassium Bisulphite—
Toronto, 5 cks. £23
Potassium Chlorate—
Malta, 1 c. £11
Para, 5 11
Potassium Cyanide—
Townsville, 3 t. £210
Shanghai, 2 cs. 10
Calcutta, 3 c. 42
Potassium Prussiate—
Durban, 5 c. £15
Potassium Sulphite—
Brussels, 1 c. £6
Quinine—
Bombay, 2,000 ozs.
Calcutta, 8,950
Colombo, 470
Salammoniac—
Foochow, 6 c. £10
Melbourne, 6 8
Sydney, 4 5
Salt—
Delagoa Bay, 2 t.
Wellington, 33
C. Town, 1
Chinde, 5
Saltcake—
Gothenburg, 9 t. 15 c. £15
Saltpetre—
Durban, 15 c. £19
Algoa Bay, 10 13
Rockhampton, 1 t. 26
Brisbane, 10 271
New Orleans, 17 3 421
Lisbon, 3 13 92
Bahia, 1 4 33
Sheep Dip—
P. Arenas, 40 cks. £200
Auckland, 1 t. 10 c. 60
Silver Nitrate—
Melbourne, 1 cs. £44
Soap—
Alexandria, 5 t. 6 c.
Beira, 7
Bordeaux, 1
Boulogne, 2 4
Bremen, 4
Brisbane, 1 6
B. Ayres, 19
Calcutta, 4
Constantinople, 5
Durban, 12
E. London, 4
H. Kong, 1
Lemon, 4
Lisbon, 2
Madras, 6 3
Montreal, 1 1
Perth, 6
P. Elizabeth, 5 3
Rangoon, 11
Rotterdam, 4 3
Singapore, 5
Sydney, 1
Tokio, 10
Trinidad, 1
Yokohama, 5
Zanzibar, 4
St. John's, N'fld., 1
Adelaide, 3
Bombay, 6
C. Town, 3 3
Hamburg, 3
Mauritius, 3
Melbourne, 1 11
St. Helena, 3
Shanghai, 7
Tangiers, 4
Wellington, 1
Tientsin, 3
Soda—
Mombasa. 2 t. 2 c. £13
Soda Crystals—
Melbourne, 20 cs. £28
Sodium Arsenite—
P. Elizabeth, 15 t. 11 c. £526

Sodium Bicarbonate—
Callao, 2 t. 19 c. £18
Trinidad, 1 6
Algoa Bay, 1 10 22
Para, 20 kgs. 8
Sodium Cyanide—
Townsville, 10 t. £910
Sodium Sulphate—
Brussels, 1 cs. £6
Starch—
Barbadoes, 4 c.
Channel Is., 1 t. 4
E. London, 3 7
Lyttelton, 1
P. Elizabeth, 4 15
Beira, 2
Bombay, 2
Brussels, 4
Delagoa Bay, 1 5
Piræus, 1
Stockholm, 15
Sulphur—
Lemon, 10 brls. £7
Algoa Bay, 100 cks. 18 c. 53
Kilindini, 15 9
C. Town, 78 t. 15 870
Sulphuric Acid—
Trinidad, 2 t. 9 c. £13
Calcutta, 4 3 47
Mombasa, 4 18
Sierro Leone, 9 6
Burutu, 11 6
Colombo, 7 10 59
Delagoa Bay, 6 30
Algoa Bay, 3 6
Mauritius, 1 3 12
Sekondi, 9 8
Superphosphates—
Mauritius, 50 t. £165
Tallow—
Amsterdam, 10 c.
Antwerp, 6 t. 4
Bremen, 2 15
Brussels, 22 16
Barlingen, 6 14
Riga, 10 5
Hamburg, 38 18
Rotterdam, 42
Tartaric Acid—
Calcutta, 3 c. £17
Durban, 7 35
Callao, 6 39
Santiago, 1 6
N. Plymouth, 2 10
Wellington, 4 21
C. Town, 1 6
Wax—
Stockholm, 2 t.
White Lead—
Adelaide, £816
Bombay, 30
Calcutta, 13
C. Town, 62
H. Kong, 48
Melbourne, 512
Sydney, 285
Wellington, 289
Brisbane, 532
P. Elizabeth, 227

LIVERPOOL.

Week ending July 31.

Acetic Acid—
Lisbon, 10 c. £5
Albumen—
Rio de Jan., 1 t. 2 c. £88
Alum—
Accra, 12 c. £5
Bourgas, 19 5
C. Town, 11 4
Piræus, 4 t. 3 37
Callao, 5 15 29
Santos, 10 3
Shanghai 4 1
Cartagena, 10 4
Jeddah, 2 11
Ammonia—
Para, 2 c. £7
C. Coast, 2 5
Ammonium Carbonate—
Genoa, 2 t. 7 c. £78
Venice, 1 16 62
Rouen, 1 31
Bahia, 12 21
Antwerp, 10 16
Trieste, 8 12
Pasages, 1 1 33

Ammonium Carbonate—
Barcelona, 3 10 c. £114
Wellington, 1 2
Christchurch, 2 4
Para, 1 cs. 3
Ammonium Muriate—
Iquique, 5 c. £6
Genoa, 7 t. 3 171
Odessa, 11 12
Yokohama, 6 2 156
Gothenburg, 15 17
Copenhagen, 10 2 220
B. Ayres, 5 138
Piræus, 1 4 29
Gythion, 5 6
Salonica, 24
Smyrna, 1 12
Adelaide, 10 7
Cairo, 6 24
Bilbao, 1 241
Ammonium Sulphate—
Baltimore, 28 t. 2 c. £323
Tarragona, 10 120
Barcelona, 10 120
Cartagena, 10 720
Malaga, 60 594
New York, 50 130
Gd. Canary, 11 238
Demerara, 20 13
Palermo, 1 2 120
Penang, 10 225
Teneriffe, 28 120
Valencia, 10 1,033
Las Palmas, 86 10 570
Hamburg, 50
Antimony Sulphide—
New York, 9 brls. £40
Arsenic—
P. Arenas, 2 t. £71
Asbestos—
Antofagasta, 1 bl. 29 cs.
Iquique, 6
Lisbon, 10 kgs.
Malta, 1
Inagua, 43
Vera Cruz,
Barium Sulphate—
Vera Cruz, 10 c. £2
Bleaching Powder—
Bombay, 88 cs. 72 dms.
Chicago, 22 cks. 142
New Orleans, 20 kgs.
Vera Cruz, 10 brls.
Baltimore, 24
Boston, 823
Brisbane, 40
Buenos Ayres, 12
Constanti'ple, 10 50
Dunedin, 67
New York, 109 35
Phila'phia, 163
Bones—
Havre, 10 t. £75
Bones (Calcined)—
Hamburg, 9 t. 16 c. £55
Boracic Acid—
Victoria, B.C., 1 ck. £2
Yokohama, 1 t. 26
Brisbane, 1 26
Auckland, 6 10 c. 189
Wellington, 2 58
Borax—
Piræus, 1 t. £15
Havana, 3 9 c. 52
Cienfuegos, 17 13
Matanzas, 1 15
S. Cruz, 1 kg. 1
Sydney, 5 4
Tampico, 1 brl. 2
Venice, 1 14 26
Antofagasta, 2 1
Boston, 28 8 446
Dunedin, 2 32
Montreal, 1 cs. 3
Iquique, 5 4
Wellington, 1 19
Auckland, 4 10 84
Victoria, 10 8
Calcium Chloride—
Sydney, 30 t. 2 c. £96
Algoa Bay, 12 2
Malta, 6 12 15
Adelaide, 1 19 4
Brisbane, 5 4 10
Melbourne, 5 4 10
Wellington, 14 19 30
Bombay, 10 4 20
Calcium Sulphydrate—
Antwerp, 31 t. 1 c. £129
Carbonate of Lime—
Calcutta, 3 bgs. £2
New York, 2 t. 7 c. 35
Baltimore, 2 15 30

Carbonic Acid Gas—
Burutu, 3 cs. £9
Caustic Potash—
Boston, 3 t. 11 c. £93
Gibraltar, 4 8
Caustic Soda—
Adelaide, 35 cs.
Alexandria, 15 dms.
Alicante, 20 cks.
Ancona, 15
Bari, 5
Batavia, 50
Bilbao, 10
Bombay, 185
Braila, 105
Brazil, 70
Brindisi, 15
B. Ayres, 449
Calcutta, 50
Callao, 330
Cape Town, 72
Catania, 18
Galatz, 419
Genoa, 30
Gothenburg, 60
Havana, 130
Leghorn, 93
Madeira, 50
Malmo, 20
Manilla, 58
Messina, 130
Montreal, 285
New Orleans, 30
Port Said, 7 pks.
Rio de Jan., 55
Rotterdam, 17 brls. 35
Santos, 25
Singapore, 25
Stockholm, 18
Sydney, 77
Valparaiso, 40
Vancouver, 5
Victoria, 12
Wellington, 10
Salonica, 100
San Sebastian, 45
Amsterdam, 115
Boston, 50
Brisbane, 27
Cartagena, 79 pks. 8
Colombo, 20
Demerara, 31
Durban, 90
Galveston, 7
Gibraltar, 45
Halifax, 215
Hiogo, 55
Lyttelton, 338
Melbourne, 30
Oporto, 10
Pacasmayo, 8
Para, 10
Paranaqua, 17 cks. 200
Pasages, 15
Piræus, 15
Progress, 20
Puerto Limon, 370
Rangoon, 53
Seville, 73
Tampico, 104
Volo,
Yokohama,
Chemicals *(otherwise undescribed)*
Calcutta, 1,304 slbs. £75
54 dms. 303
Baltimore, 1 kg. 3
C. Bolivar, 10 18
Naples, 18
Genoa, 5 cks. 90 125
Odessa, 10 brls. 27
Antwerp, 11 8 58
Gijon, 1 2
Tampico, 10 cs. 18
Santos, 80 650
Benkoelen, 57
Vera Cruz, 45 18
Sandy Point, 4
China Clay—
Bahia, 25 bgs.
Calcutta, 360 cks. 76
Lisbon,
Montreal, 113
Vera Cruz, 104 104 cs.
Coal Products—
Carbolic Acid (Liquid)
P. Arenas, 5 t. 12 c. £80
Carbolic Acid (Solid)
Calcutta, 4 cs. £13
Hiogo, 2 t. 10 c. 131
Rotterdam, 3 cks. 4 btls. 24
New York, 20 t. 2 c. 1,126
Copperas—
Las Palmas, 1 t. 11 c. £4
Rio de Jan., 1 3
Para, 2 9 6

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Copper Sulphate—
Bordeaux, 44 t. 14 c. £1,350
Bahia, 19 35
Bilbao, 4 17 160
B. Ayres, 10 18 346
Constanza, 3 1 95
Varna, 19 30
Bourgas, 2 60
Ibrail, 13 4 389
Galatz, 2 5 68
Antwerp, 19 29
Stettin, 4 14 138
Wellington, 10 16
Rotterdam, 19 17 571
Barcelona, 5 2 144
Madras, 10 16
Colombo, 1 31
Bombay, 2 10 74
Rangoon, 1 5 37

Cottonseed Oil—
Bordeaux, 30 brls.
Conakry, 15
Lanzarote, 4
Naples, 16

Cream of Tartar—
St. Johns, 1 kg. £4

Disinfectants—
Valparaiso, 50 cs. £25
Karachi, 100 dms. 50
Calcutta, 505 32
Antwerp, 6 brls. 24
Christchurch, 10 12
Durban, 5 15
Rangoon, 20 cks. 150

Dried Blood—
Las Palmas, 10 c. £5
Gd. Canary, 2 t. 19
Teneriffe, 1 10

Glue—
Antwerp, 108 bgs.
Salonica, 2
Havre, 10 cs.

Glycerine—
Algoa Bay, 2 c. £6
Bombay, 5 15
Hiogo, 9 t. 16 420
Lima, 10 30
Shanghai, 7 10 314
Christchurch, 5 14
Montreal, 1 48
Bombay, 6 16
Rio de Jan., 1 2 40
Montreal, 47 2,050
Braila, 1 56
Tjilatjap, 1 cs. 1

Lead Nitrate—
Marseilles, 5 t. 5 c. £320

Linseed Oil—
Alexandria, 120 brls.
Iquique, 50 dms.
Port Said, 9
Bari, 6
Coquimbo, 130
Colon, 3 cs.
Guayaquil, 40
Mollendo, 50
Patras, 17 brls.
Piræus, 44
Port Louis, 20
Victoria, 20

Magnesia—
Havre, 10 c. £13
Philadelphia, 1 t. 3 52

Magnesia (Calcined)—
Vera Cruz, 1 cs. £7
Bahia, 3 c. 2 17
Cartagena, 1 6

Magnesium Carbonate—
Barcelona, 1 t. 19 c. £36
Valparaiso, 5 7

Magnesium Chloride—
New York, 20 t. 1 c. £54
Seville, 6 1 21
Quebec, 25 69
Bangkok, 1 15 7

Magnesium Oxide—
Beyrout, 2 c. £6

Magnesium Sulphate—
Brisbane, 5 c. £3

Manure—
Barbadoes, 10 t. £80
Madeira, 9 14 c. 76
Teneriffe, 10 94

Muriatic Acid—
Manaos, 1 cs. £1
Demerara, 2 t. 12
Bahia, 1 2
Iquique, 4 3

Nitric Acid—
Bahia, 2 cs. £5
Iquique, 2 3

Paraffin Wax—
Bari, 15 bgs.
Callao, 5
Valparaiso, 150
Vera Cruz, 110
B. Ayres, 5

Pearl Ash—
Calcutta, 9 c. £13

Phosphate—
San Jose, 2 t. 10 c. £36

Phosphorus—
Pasages, 10 c. £55
Tampico, 6 50
St. Johns, 4 30

Phosphorus (Amorphous)—
Rio de Jan., 3 c. £30

Potassium Bichromate—
Antwerp, 1 t. 1 c. £35
B. Ayres, 2 19 91
M. Video, 10 16
Alexandria, 2 62
Aleppo, 1 31
Santos, 4 11
Tampico, 7 9

Potassium Carbonate—
Boston, 3 t. 11 c. £85
Bahia, 2 cs. 7

Potassium Chlorate—
Rangoon, 4 c. £9
Yokohama, 20 600
Shanghai, 2 60
Hamburg, 4 18 142
Fiume, 2 10 72
Libau, 1 9 49
Kobe, 25 750
H. Kong, 1 10 45
Manilla, 5 150
Bari, 1 5 32

Potassium Prussiate—
Vera Cruz, 1 t. 7 c. £81
Lagos, 2 cs. 4

Potassium Silicate—
Amsterdam, 2 t. 12 c. £22

Salammoniac—
Valparaiso, 1 ck. £5
Dedeagatch, 6 c. 11
Salonica, 12 23
Varna, 10 19
Con'nople, 3 114
Lisbon, 11 12
Barcelona, 1 4 47
Alexandretta, 1 38
Piræus, 6 12
Marseilles, 10 19
Rangoon, 2 80
Bombay, 4 150
Rio de Jan., 19 94
Lagos, 1 cs. 2 brls. 4

Salt—
Abonnema, 40 t. 4 c.
Am'dam, 520
Antwerp, 60 200 cs.
Baltimore, 25
Boston, 100
B. Ayres, 12 10
Burutu, 391
Calcutta, 5,456
Coquimbo, 100
Demerara, 133 18
Dunedin, 195
Durban, 251
E. London, 8 18
Fremantle, 10
Kribi, 35 4
Montreal, 817 17
N. Orleans, 496
New York, 118 5
Philadelphia, 32 10
Portland, 50
Rosario, 11 4
Rio de Jan., 5 cks.
Sapele, 5
Sekondi, 12 8
Sydney, 607
Trinidad, 26 16
Vancouver, 100
Wellington, 211
Yokohama 3125 10
Auckland, 60
Bata, 8 18
Batanga, 8 18
Cape Town, 33 10
Halifax, 150
Malta, 20 cs.
Manaos, 12 8
Matadi, 11 16
Rio del Rey, 6 14

Saltpetre—
S. Leone, 1 kg. £1
Lagos, 1 2

Saltpetre (Crystals)—
Para, 10 c. £13

Sheep Dip—
Gisborne, 5 cks. 250 dms. 175 cs. £254
Dunedin, 50 250 189
Nelson, N.Z., 100 22
Algoa Bay, 16 t. 16 c. 320
E. London, 5 10
Pt.Lyttelton, 15 9 260
Timaru, 6 16 123
Oamaru, 1 8 25
Blenheim, 2 19 56
Wellington, 27 19 375
B. Blanca, 17 15 297
B. Ayres, 21 9 580

Soap—
Addah, 120 bxs.
Alexandria, 184 27 cs.
Amboina, 550
Antigua, 100
Axim, 100
Bangkok, 651
Barbadoes, 700
Barcelona, 25
Bassam, 60
Batavia, 42
Bathurst, 130
Bermuda, 19
Boston, 30 cks.
Brass, 112
B. Ayres, 97
Calabar, 2
Calcutta, 172 1
Cape Town, 1,160
C. C. Castle, 999
Demerara, 2,300
Durban, 1,662 1,431
Dominica, 20 1
E. London, 1,306
Half Jack, 150
H. Kong, 260 2,000 pks.
Kingston, 300 100
Kobe, 230
Kotonou, 50
Lagos, 235
Las Palmas, 60
Limassol, 36
Manila, 50
Menado, 19
Mossel Bay, 45
Opobo, 560
Penang, 1,883
P. Elizabeth, 50 255
Rangoon, 1,736 775
Rotterdam, 1,220
St. Kitts, 200
St. Lucia, 270
Saltpond, 50
Samarang, 242
Sapele, 605
Shanghai, 21,783 112
S. Leone, 120
Singapore, 3,463
Sourabaya, 122
Teneriffe, 112
Trinidad, 450
Valparaiso, 150 2
Acajutla, 25
Antwerp, 122
Barranquila, 10
Beira, 255
Bilbao, 9 1
Callao, 50
Christchurch, 5
Colombo, 5
Concepcion, 74
Delagoa Bay, 1,053
Forest Midi, 70
Galata, 25
Genoa, 70
Gibraltar, 640 41
Havre, 325
Huelva, 60
Iquitos, 151
Karachi, 1,071 4
Kribi, 1,061
Leghorn, 260
Lanzarote, 810
Lisbon, 50
Madras, 240
Manaos, 19
Manta, 2,733
Melbourne, 30
Melilla, 200
Macassar, 550
Monte Video, 12
Nassau, 20
Para, 592 bdls.
P. Arenas, 2
Rio del Rey, 224
Rosario, 1,045
Salonica, 50
Santos, 14 brls.
Warri, 8
Yokohama, 150

Soap Extract—
Auckland, 40 cs.
Cape Town, 131

Soap Powder—
Antwerp, 100 bxs.
Rotterdam, 50 cs.

Soda—
Christchurch, 22 cs.

Soda Crystals—
Alexandria, 20 brls.
Callao, 7
Montreal, 120 cks. 75 bgs.
Shanghai, 252 kgs.
B. Ayres, 1,119
Burutu, 50
Calcutta, 40
Hiogo, 50
Madras, 30
New York, 170 350
Philadelphia, 84
Rosario, 100
Shanghai, 42 20
Taltal, 30

Soda Ash—
Aarhus, 500 bgs.
Alexandretta, 8
Bombay, 28 cks. 202
Callao, 150
Constantinople, 300
Copenhagen, 2,050
Fremantle, 19
Genoa, 250
Kobe, 500
Lisbon, 132
Mexico, 37 cs.
Montreal, 295
P. Alegre, 50
P. Arenas, 8
Rotterdam, 1,352
Tientsin, 2,492 84 dms.
Vancouver, 400
Victoria, 50 kgs.
Amsterdam, 100
Barcelona, 54
Bar'quilla, 50
Boston, 67
B. Ayres, 95
Ancona, 50
Dunedin, 130
Durban, 16
Gothenburg, 500
Halifax, 16
Havana, 8
Hiogo, 2,237
Lyttelton, 28
Melbourne, 139
M. Video, 123
Naples, 700
New York, 20
Oporto, 16
Piræus, 20 brls.
Salaverry, 20
Salonica, 51
Sydney, 741
Talcahuano, 122
Valparaiso, 35
Venice, 900
Wellington, 8
Yokohama, 33 150

Sodium Bicarbonate—
Brisbane, 140 kgs.
Demerara, 20 brls.
Dunedin, 40 cks. 50 dms.
Galatz, 66
Genoa, 14 220 kgs.
Kobe, 500 bgs.
Montreal, 150 cks. 250
Perth, 14
Rio de Jan., 20
Rouen, 14
Singapore, 10 14
Varna, 22 dms.
Victoria, 80 bgs.
Auckland, 180 kgs.
Bilbao, 70
Bombay, 200
Burutu, 50 cks.
Calcutta, 26
Callao, 30 bgs.
Constantinople, 55
Galata, 42
Genoa, 220
Gijon, 2 cks.
Halifax, 500
Hamburg, 300
Hiogo, 1,000
H. Kong, 226 bgs.
Lyttelton, 140
Madras, 20 518
Malta, 47
Melbourne, 45 1,523
Monte Video, 23
Naples, 5 cks. 140
Oporto, 50
Penang, 6
Piræus, 74
Rosario, 42
Salonica, 15
Seville, 100
Shanghai, 84 bgs. 168

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Sodium Bicarbonate—
Sydney, 692 kgs.
Tampico, 10
Valparaiso, 10 cks. 133
Venice, 150
Wellington, 1,000 bgs.
Yokoh'ma,

Sodium Nitrite—
Rio de Jan., 1 ck.

Sodium Peroxide—
Kobe, 1 t. 10 c. £150

Sodium Prussiate—
New York, 40 cks.
Philadelphia, 13

Sodium Silicate—
B. Ayres, 404 brls.
Calcutta, 15 cks. 40
Hiogo, 75 14
Monte Video, 20
Santos, 10
Smyrna, 60 bgs.
Sydney, 10
Ancona, 16
Canterbury, 102
Galveston, 52
Leghorn, 50
Lisbon, 10 dms.
Puerto Limon,

Sodium Sulphide—
Bombay, 1 t. £10

Sulphur—
Mossel Bay 2 t. 4 c. £25
C. Town, 6 14 75
Santos, 5 3
Boston, 80 2 330
Gothenburg, 25 113

Sulphuric Acid—
Rosario, 1 cs. £1
B. Blanca, 4 5
Hsin Ho. Wf. 3 3
Callao, 4 c. 3
Iquique, 1 1

Superphosphates—
Las Palmas, 50 bgs. £175
45 t. 10 c. 31
Gd. Canary, 10 10 25
Orolava, 10 3,581
Aaleborg, 1,302 2 235
Alicante, 99 1 2,622
Lisbon, 1,087 7
Teneriffe, 2 484
Santander, 198

Superphosphate of Bone—
Las Palmas, 3 t. 10 c. £13

Tallow—
Bassam, 26 cs.
Port Said, 4 cks. 26 trcs.
Alexandria, 115 brls.
Antwerp, 58
Braila, 2
Burutu, 12
Pernambuco, 25
Piræus,

Tannic Acid—
Lisbon, 1 ck. £29

Zinc Ashes—
Rotterdam, 15 t. 18 c. £95

Zinc Chloride—
Philadelphia, 18 c. £12

Zinc Muriate—
Bombay, 20 t. 17 c. £285
Toronto, 2 9 39
New York, 1 16

MANCHESTER.

Period ending July 30.

Chemicals (*otherwise undescribed*)
Alexandria, 220 bgs.
Beyrout, 44 cks.

Dyestuffs—
Aniline Colours
Hamburg, 16 pks.

Glue—
Antwerp, 6 cks.

Iron Oxide—
Malta, 16 cks.

Mineral White—
Dunedin, 10 cks.

Salammoniac—
Alexandria, 10 brls.

Salt—
Rotterdam, 200 t.

Soap—
Alexandria, 33 cs.

Tallow—
Bombay, 12 brls.

GLASGOW.

Week ending August 1.

Ammonium Cartonate—
Brisbane, 1 t. 3 c. 3 q.

Ammonium Sulphate—
Barbadoes, 50 t.
Dunedin, 65
Leghorn, 172 13 c. 2 q.
Nantes, 35
Amsterdam, 373 14
Kobe, 10
Osaka, 100 5 2
Yokohama, 197 16 3

Boracic Acid—
Hamburg, 14 t. 19 c.

Caustic Potash—
Joh'burg, 2 t. 2 q.

Chemicals (*otherwise undescribed*)
Calcutta, £38
Johannesburg, 175

Coal Products—
Aniline Dye
Calcutta, £65
Arlan
Spezzia, a qnty.
Tar
Spezzia, a qnty.

Dyestuffs (*otherwise undescribed*)
Australia, £220
Canada, 90
Sweden, 50

Dyestuffs—
Logwood Extract
Ballarat, 2 t. 2 c. 1 q.
Tanners' Bark
Genoa, £140
Tanners' Extract
Hamburg, 1 t. 3 c. 2 q.

Fish Oil—
Hamburg, 1 t. 19 c. 3 q.

Glue—
Canada, £80

Iron Oxide—
Sydney, 2 t.

Linseed Oil—
Brisbane, 2 t.
Dunedin, 4 4 c. 1 q.
St. Lucia, 17 2
Rio de Jan., 11 14
H. Kong, 40 15

Magnesite—
N. Sydney, 31 t. 16 c. 3 q.

Magnesium Sulphate—
Rio de Jan., 14 t. 15 c. 2 q.

Manure—
Leghorn, 29 t. 9 c. 1 q.

Paraffin (Solid)—
Rotterdam, 10 t.

Paraffin Wax—
Belgium, 4 cs.
Bordeaux, 7 t. 1 c. 1 q.
Canada, 6 17
Santos, 5 4 2
Christiania, 12 15

Potassium Bichromate—
Antwerp, 5 t. 9 c. 3 q.
Christiania. 15 3
Genoa, 4 8 2
Sweden, 2 2 1
Rotterdam, 5 3
Yokohama, 2 7 1

Potassium Cyanide—
Auckland, £80
Manitoba, 1,540
Rio de Jan., 271
Geraldton, 8 t. 15 c.
Hiogo, 2

Pyrites (Copper)—
Huelva, 2,200 t.

Red Lead—
Adelaide, 2 t. 2 c. 3 q.
Auckland, 11
Brisbane, 4 5
Demerara, 2 4 2
Trinidad, £1,252
Rio de Jan., 1 5
Bombay, 2 10
H. Kong, 5

Rosin Oil—
Amsterdam, 1 t. 5 c.

Sheep Dip—
P. Arenas, £33
R. Gallegos, 100
R. Caylet, 100
R. Verde, 66

Soap—
Dunedin, 2 t. 18 c.
Trinidad, 1 7

Soap—
Bombay, 16 lbs.

Sodium Bichromate—
Antwerp, 7 t. 4 c. 3 q.
Genoa, 8 3

Sodium Carbonate—
Natal, 5 t. 17 c.

Sodium Cyanide—
Martil, £2,457
Manitoba, 409
U.S.A., 849

Starch—
Rio de Jan., 9 t. 14 c. 1 q.

Tallow—
Amsterdam, 5 t. 18 c.
Rotterdam, 2 3

Turpentine—
Rotterdam, 19 c.

White Lead—
Brisbane, 8 t.
Dunedin, 7 15 c. 2 q.
Invercargill, 3 10
Sydney, 26 10 3 £70
Newcastle,
H. Kong, 5

Zinc Oxide—
Rio de Jan., 2 t. 2 c.

Zinc White—
Newcastle, £45

HULL.

Week ending July 27.

Ammonium Sulphate—
Italy, 1,970 bgs.
Marseilles, 200
Stettin, 1,072

Chemicals (*otherwise undescribed*)
Antwerp, 3 cks.
Amsterdam, 28 15 pks.
Copenhagen, 730 slbs.
Christiania, 4
Ch'tiansund, 10 462
Drontheim, 19
Gothenburg, 161 87 cs. 234
Hamburg, 40
Libau, 25
St. Petersburg, 5 42
Stettin, 4

Coal Products—
Pitch
Antwerp, 334 t.
Stockholm, 25 cks.
Tar
Bergen, 7 cks.
Christiania, 12
Ghent, 12
Hamburg, 10

Cottonseed Oil—
Amsterdam, 1 t. 1 c.
Drontheim, 17
Gothenburg, 1 1
Hamburg, 39 16
Marseilles, 4 10
Stockholm, 3 7
Stettin, 1

Dyestuffs (*otherwise undescribed*)
Antwerp, 5 cks.

Glue—
Gothenburg, 110 bgs.
New York, 20 t. 17 c.

Linseed Oil—
Bergen, 18 c.
Copenhagen, 3 t.
Christiansund, 2 10
Catania, 6 14
Drontheim, 7
Hamburg, 11 15
Trieste, 1 10

Manure—
Libau, 1,550 bgs.
Leghorn, 6,120
Venice, 3,040

Mineral White—
Stockholm, 20 bgs.

Plumbago—
Christiania, 3 cks.
Marseilles, 5

Stearine—
Antwerp, 18 cks.

Tallow—
Christiania, 25 cks. 25 trcs.

Turpentine—
Antwerp, 5 cks.
Copenhagen, 4
Christiania, 17
Gothenburg, 10
Hamburg, 16
Stockholm, 10

TYNE.

Week ending July 27.

Antimony (Regulus)—
Rotterdam, 3 t. 4 c. 14 lb.
Gothenburg, 1 1 1 q. 14

Barium Binoxide—
Hamburg, 29 t. 15 c. 2 q. 23 lb.
Antwerp, 10 9 17

Bleaching Powder—
Amsterdam, 20 t. 19 c. 2 q. 2 lb.
Copenhagen, 15 8 2 12
Aarhus, 3 4 1 16
Rotterdam, 15 8 26

Bone Meal—
Hamburg, 44 t. 8 c. 3 q. 20 lb.

Caustic Soda—
Genoa, 10 t. 3 c. 14 lb.
Mathi, 31 8 3 q. 7
Copenhagen, 5 16 8
Antwerp, 1 14 3 8
Christiania, 9 17 1 8

Colours—
Copenhagen, 6 c. 1 q. 24 lb.

Infusorial Earth—
Copenhagen, 3 t. 10 c.

Lead Ore—
Antwerp, 183 t. 11 c.

Litharge—
Amsterdam, 10 c. 2 q. 13 lb.
Antwerp, 1 t. 1 2 7
Rotterdam, 1 7 3
Gothenburg, 1 3 2 14

Pitch (Rosin)—
Hamburg, 4 t. 2 q. 26 lb.
Copenhagen, 7 3 4

Red Lead—
Genoa, 6 t. 18 c. 2 q. 12 lb.
Amsterdam, 1 1 2 21
Hamburg, 10 3 1 13
Copenhagen, 2 15 1 5
Aalborg, 1 1 1 8

Soda Crystals—
Rotterdam, 10 t. 1 c. 3 q. 4 lb.

Sodium Sulphate—
Gothenburg, 250 t.

Sulphur—
Gothenburg, 55 t.

Superphosphates—
Oporto, 147 t. 17 c. 3 q. 8 lb.
Riga, 889 13 9

White Lead—
Copenhagen, 2 t. 10 c. 3 q. 26 lb.
Rotterdam, 1 10 2
Christiania, 12

Zinc Ore—
Antwerp, 715 t.

GOOLE.

Week ending July 27.

Chemicals (*otherwise undescribed*)
Amsterdam, 9 cks. 1 cs.
Rotterdam, 1 5

Coal Products (*otherwise undes.*)
Amsterdam, 50 cks.
Delfzyl, 271
Hamburg, 173 111 cs.

Colours—
Antwerp, 57 bgs.
Rotterdam, 1 cs.

Dyestuffs (*otherwise undescribed*)
Antwerp, 1 cs.
Rotterdam, 2 cks.

GRIMSBY.

Week ending July 24.

Caoutchouc—
Landsorona, 1 ck.

Chemicals (*otherwise undescribed*)
Rotterdam, 19 kgs.

Coal Products (*otherwise undes.*)—
Dieppe, 78 brls.

Colours—
Dieppe, 2 pks.
Hamburg, 4

Dyestuffs (*otherwise undescribed*)
Dieppe, 1 pk.

Manure—
Hamburg, 203 bgs.

Soap—
Dieppe, 15 cs. 9 pks.

Tin Oxide—
Hamburg, 1 ck.

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PRICES CURRENT.

FRIDAY, August 9, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids:—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	4
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered nett	,,	32	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	45	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35% nett	,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes:—				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¼
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5½
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2
,, (filtered for Lucigen light)	,,	0	0	2½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	85	0	0
,, Sulphate	,,	30	15	0
,, Oxide (copper scales)	,,	75	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine nett	per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	15	0
,, Litharge Flake (ex ship)	,,	23	0	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils:—				
Cottonseed	per ton	30	0	0
Linseed	,,	25	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate nett	,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 1/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton (f.o.r w'ks.)	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,,	4	10	0
,, ,, (Soda Crystals)	,,	3	0	0
,, Acetate (ex ship)	,,	16	15	0
,, Arseniate, 45%	,,	24	10	0
,, Borate (Borax), Crystals	,,	15	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton (10 ton lots)	10	10	0
,, ,, (74% C. Soda) ,, ,,	,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	0
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	177	0	0
Zinc (Spelter)	,,	22	0	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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LATE ADVERTISEMENTS.

THE GLASGOW & WEST OF SCOTLAND TECHNICAL COLLEGE, GLASGOW.

Departments of Chemistry, Technical Chemistry, and Metallurgy:—

Chemistry: Professor G. G. Henderson, M.A., D.Sc., F.I.C.
Technical Chemistry: Professor Thomas Gray, D.Sc., Ph.D.
Metallurgy: Professor A. Humbold Sexton, F.C.S., F.I.C.

The Courses of Instruction in these Departments are arranged for Students preparing to become Manufacturing or Analytical Chemists, Metallurgists, or Science Teachers. The Courses in Chemistry qualify for the examinations of the Institute of Chemistry, and of the Universities of Glasgow, Edinburgh, and London. Session 1907-1908 begins on Monday, September 23rd, in the new buildings recently erected for the College. The Entrance Examination begins on Monday, September 16th. Calendar (by post 1/1) containing regulations for the Associateship of the College and prospectus (gratis) may be obtained from the Secretary.

CHEMICAL Plumber seeks situation.—"1468." *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CHEMIST wanted, thoroughly acquainted with the manufacture of Sulphur Black, etc. Apply, stating wage and experience.—"1469," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

AN old-established Business of Manufacturing Chemists and Merchants with a large connection, to be sold as a going concern. Full particulars from Thomson, Hill & Co., Chartered Accountants, 43, Cannon Street, E.C.

ENGINEER wanted for India to take charge small Fish Manure and Oil Plant; state age and experience, salary required. &c.—H. & Co., 127, Fenchurch Street, London, E.C.

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DAVIS BROS., 265, Strand, LONDON, W.C.

CURRENT TOPICS.

THE JULY TRADE RETURNS.

THE Board of Trade returns for July show conclusively that the "boom" in our overseas commerce is by no means at an end. The imports during last month are valued at over three and a half millions sterling more than during the corresponding month of 1906, while in exports the increase is no less than seven millions. The comparison with 1905 is even more striking, the gains being seven and a half millions and twelve and a half millions respectively. The totals for the first seven months of this year are also record figures. Our imports to the end of July are thirty-one millions greater than in 1906, and sixty-two millions greater than in 1905. Exports are up by thirty-two millions as compared with 1906, and by the phenomenal figure of sixty-three millions over the previous year. As regards chemicals, the July imports and exports both show substantial increases, while the advances for the seven months are £910,834. and £1,190,706. respectively. Our usual monthly analysis is given below.

The returns for July show an increase of £3,605,505. in the value of total imports, and an increase of £7,009,369. in total exports, as compared with July, 1906. Total imports (value c.i.f.) were £52,213,304., against £48,607,799.; total exports of British and Irish produce (value f.o.b.), £40,452,331., against £33,442,962. The comparison with 1905 shows an increase of £7,471,269. in imports, and an increase of £12,631,280. in exports.

The imports of chemicals, drugs, dyes, and colours in July amounted to £972,815., against £843,383. in 1906, an increase of £129,432. The imports of bleaching materials in July were valued at £3,741., against £5,153., and of soda compounds £14,275., against £7,697. in 1906.

The exports of chemicals, drugs, dyes, and colours in July amounted to £1,363,942., against £1,193,376. in 1906, an increase of £170,566. During the month the principal items were:—Bleaching materials, 75,832 cwts., valued at £16,347., against 87,230 cwts. and £18,315. in 1906. Coal products (not dyes), value £102,777., against £85,123. in 1906. Copper sulphate, 1,245 tons, valued at £39,027., against 1,426 tons and £34,425. in 1906. Dyestuffs, £34,427., against £21,922. in 1906. Glycerine, £39,190., against £23,680. in 1906. Chemical manure, 50,978 tons, valued at £309,766., against 49,696 tons and £259,535. Muriate of ammonia, 13,917 cwts., valued at £17,778., against 9,668 cwts. and £12,570. in 1906. Painters' colours and materials, 177,618 cwts., valued at £225,871., against 182,914 cwts. and £227,364. in 1906. Soda compounds, 506,107 cwts., valued at £160,313., against 422,881 cwts. and £122,264. in 1906. The exports of salt in July amounted to 70,786 tons, valued at £57,435., against 60,965 tons and £42,779. in 1906. Exports of "unenumer-

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ated chemicals" were valued at £253,308., compared with £247,668. in 1906.

The imports of oil seeds, nuts, oils, fats, and gums in July amounted in value to £3,062,601., against £2,221,426. in 1906, an increase of £841,175. The figures for petroleum were 29,842,182 gallons, valued at £631,443., against 22,593,394 gallons and £473,812 in 1906. The value of exports of oil seeds, nuts, oils, fats, and gums was £273,997., against £247,035., an increase of £26,962.

The imports of metals and minerals during July were :— Copper ore, 10,634 tons, valued at £161,942., against 7,732 tons and £86,927. in 1906. Copper (regulus and precipitate), 7,614 tons, valued at £374,614., against 5,786 tons and £205,528. in 1906. Lead (pig and sheet), 18,402 tons, valued at £366,376., against 20,067 tons and £326,643. in 1906. Pyrites of iron and copper, 49,207 tons, valued at £77,189., against 65,567 tons and £110,256. in 1906. Quicksilver, 41,400 lbs., valued at £3,613., against 824,930 lbs., valued at £79,015. in 1906. Silver ore, value £156,509., against £194,204. in 1906. Tin, 3,924 tons, valued at £737,341., against 3,268 tons and £552,238. Zinc (crude), 7,880 tons, valued at £202,805., against 8,222 tons and £209,828.

THE BRITISH ASSOCIATION, THE "TIMES," AND SENSATIONALISM IN SCIENCE.

In our last issue we reproduced the first part of Professor Smithell's highly interesting presidential address before the Chemical Section of the British Association, and elsewhere in this number the completion of the address appears.

Professor Smithells protested against the prevailing tendency among men of science to indulge rather too freely in the pursuit of theory, and in its presentation in language more sensational than is warranted by ascertained facts. In a very pertinent editorial comment on this address, the *Times* drives home the warning in the following passage : "With regard to his own science, Professor Smithells insisted that the important thing is training in the art of exact experiment, not training in the abstruse branches of mathematics which offer results far outrunning exact demonstration. There is never, he observed, greater cause for anxiety than when we see a mathematical theory awaiting the delivery of the confirmatory facts. We may notice a good deal of such theory at the present day, and we may also perceive illustrations of its danger in the feverish haste with which some investigators spring upon the world alleged discoveries confirmatory of theory, but founded upon no experiment that would otherwise be held to merit attention. This is bad in science and bad in morals. It is entirely contrary to the spirit in which science has won all her real triumphs ; and it betrays a desire to snatch unmerited laurels by launching mere guesses, upon the chance that, when someone else arrives at a conclusion by hard work, the guesser may put forth a claim to priority. If no verification of the guess ever appears, kindly oblivion is trusted to for the covering up of the guesser's folly. In the meantime he has had his little sensation in the more irresponsible portion of the Press, where somebody has probably declared him the greatest something-or-other of all time. Hard work is discouraged and discountenanced by these proceedings, and science itself is brought into disrepute. It is impossible to estimate the extent to which such conduct destroys the force of the appeals made to unwilling ears for greater encouragement of science by the State. Those who have no interest in science, whether genuine or spurious, are always ready to point to the spurious as a reason for shutting their eyes harder than ever to the claims of the genuine. Science cannot play with sensationalism without paying the penalty. Though all men of science do not yield to the fashion of the time, it is certainly not condemned with sufficient rigour, and the Royal Society itself is far from exercising as it ought its regulative and disciplinary functions."

There is no doubt that this somewhat merciless castigation of the sensationalist in science is merited, but the *Times* does not stop here. It points out that Sir David Gill, in his address as President of the British Association, though not so outspoken as Professor Smithells, inculcated the same lesson when he pointed out that the very best thing an astronomer can do to-day is hard and patient work in determining measurements with the highest degree of exactitude. Comprehensive theories of the origin of the universe are more fascinating and make more talk, but they are merely laborious conjectures at the best, and sometimes they are not so much as that. So in chemistry there are scores of problems lying unsolved, the true solution of which will be reached, if at all, by unlimited patience in carrying out exact measurements and careful observations, not by spinning theories to explain the constitution and origin of matter.

Passing on to radium as an example of scientific sensationalism, the *Times* belabours the reckless theorist in measured terms. "There are plenty of lucubrations at the present day which are merely metaphysics, and not good metaphysics. Except that terms are altered, they are identical with the medieval speculations upon which we are expected to look down from the superior heights of exact knowledge. Take the enormous mass of airy conjecture that has been built up about radium. Professor Smithells seems to concede too much when he says that it would be conventionally called an element. An element is something that we cannot decompose into anything simpler ; but radium, we are told, is always decomposing into all sorts of things. But whatever it may be called conventionally, how much is really known about it in the way that chemists understand knowledge of a substance ? It has never been isolated. It has never been dealt with except in very minute quantities of some compound of some unknown thing which may or may not be analogous to the metals which its question-begging name suggests. Different people have got the most amazing spectroscopic results, but by processes which are open to the introduction of the most amazing uncertainties. If ever there was a substance about which it behoves us to speak with diffidence it is radium. Yet the speculations to which it has given rise revolutionise the whole science of chemistry, if they are true. Professor Smithells refuses to regard his science as revolutionised, but that is only a polite way of saying that he does not believe the speculations. Indeed, he remarks that spectroscopy, dealing with substances of which we do not possess enough to test conclusions in the ordinary way, seems to be creating a 'chemistry of phantoms.' These are taken up by the mathematicians, who prove to their own satisfaction that, in conditions defined by themselves, things might happen in a given way, and thence conclude that, in conditions far beyond their ken, things do happen in that way. Radium and everything else is thus reduced to electricity, and the world is supposed to have made a vast stride in knowledge, although nobody has a ghost of an idea what electricity is, and the theorists themselves cannot fit positive electricity, whatever that may be, into

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their scheme. This is medieval metaphysics masquerading in the garb of exact science, and it is not even good metaphysics, because words are continually employed in different senses in the same argument."

No genuine scientist will quarrel with the *Times* for this outspoken protest, but we quite agree with our pharmaceutical contemporary, the *Chemist and Druggist*, in its summing up of this discussion of scientific sensationalism. Our contemporary says:—"We are not sorry to see this plain speaking, whomsoever it may be aimed at, for the elementary attributes of radium are matters of deduction; but if the *Times* means to discourage the research along new lines, we are not with it. The radium research has not so far displaced a single principle of chemistry, but it has made advances which have helped to open the minds of the hide-bound to the fact that man-made laws are not finality."

NEW COMPANIES IN 1907.

The registrations of new companies at Somerset House during the first half of 1907 were greater than in any corresponding period in the last nine years. In the six months under review, 2,479 companies, having a total nominal capitalisation of £73,994,832. were registered, as compared with 2,255 companies and £64,153,340. in the first half of 1906. In his last annual report, the Comptroller of the Companies Department of the Board of Trade comments on the tendency to decrease in the average nominal capital of new companies, and in a half-yearly review in the current number of the *Investor's Guardian* this point is also emphasised. Ten years ago the average capitalisation was £56,700.; last year it was £28,500., and during the past six months it has been £29,900., the increase being due particularly to two large registrations, accounting for £7,000,000. of capital—the Royal Insurance Company, re-registered under the limited liability laws, with a capital of £3,000,000., and the Anglo-Saxon Petroleum Company, with £4,000,000. Four other companies were registered with a capital of £1,000,000. and over. The half-year, indeed, has been fairly prolific in these extra large registrations, there being three companies with £1,000,000. each—the general Investors and Trustees, the Merton Metallurgical Company, and the Vanguard Motor 'Bus Company—and one with £2,000.000.—the British Coalite Co. These six companies give a nominal capital of £12,000,000. against four "million" companies with a total capital of £5,000,000. in the first half of 1906.

Our financial contemporary continues:—"The increase in the number of this largest class of registrations may be taken as in itself an indication of an improved outlook in the joint-stock world. The six 'million' registrations of the past six months compare with eight during the whole of 1906, six during 1905, five during 1904, and 11 during 1903, whereas in the 'fever years' of the late 'Nineties there were registered: in 1897, 30 companies of £1,000,000. capital and over; in 1898, 29; and in 1899, 31. It may be added, by way of contrast, that in 1906 there were registered 1,742 companies with a capital of £5,000. and under, against 1,005 in 1897; these figures, in conjunction with those of the companies of £1,000,000. and over, emphasising the greater use of the joint-stock system for private business purposes, and the continued inertness of the speculative market."

An analysis of the general body of new companies shows that the engineering and allied groups do not exhibit great developments. The coal and fuel section is swollen by the £2,000,000. "Coalite" registration; engineering and hardware trades show healthy activity; and textile registrations continue well supported. The "chemical and medical" class—surely a very loose classification of an important section—shows an increase from £1,115,335. in the first six months of 1906 to £1,193,207. in the corresponding period of 1907; this latter figure, however, compares with £1,758,293. in 1905. The oil section shows a big jump, owing chiefly to the 4-million registration of the Anglo-Saxon Petroleum Company. Rubber continues to attract joint-stock enterprise, accounting in the past half-year for £1,850,000. of new registrations, against £2,600,000. in the first half and £1,900,000. in the second half of last year.

Scottish registrations show an increase of two in numbers and of £533,000. in capital aggregate. The strongest groups are insurance and engineering. Ireland, with two registrations less, shows an increase of £280,000. in capital, a large Belfast company accounting for this.

Guernsey registrations have ceased to have any practical importance. Only 11 companies were registered there during the half-year, and four of these were local. The seven English companies have a total nominal capital of £749,500. The assimilation of the company laws of the Channel Islands to those of the rest of the United Kingdom is under the consideration of the Law Officers.

COMPANY LAW IN THE BRITISH EMPIRE.

Mr. George Stapylton Barnes, Comptroller of the Companies Department of the Board of Trade, in an analysis of the company laws of the United Kingdom, India, Canada and other colonies—published recently as a Blue Book—states that, with regard to the suggestion of a unified code for the whole Empire, such a code would be impossible owing to the varying needs of each part of the Empire. A greater measure of simplicity and uniformity might, however, exist than is at present the case.

The trend of recent legislation had been to afford as much information as possible concerning joint-stock companies, on the ground that publicity was the best protection for creditors and investors. Legislation could not endow people with prudence or business habits, but it could give the creditor and investor the necessary information to enable him to form a judgment. The Bill at present before Parliament would carry this principle still further by giving more complete information as to the outstanding mortgages and charges, and by imposing a duty on prospectusless companies to file a statement, in place of a prospectus, which statement should contain the same material information.

Uniformity would be commercially of the greatest use in furthering such facilities. The same information might easily be made accessible, no matter whether the company was registered in the United Kingdom or anywhere else in the Empire. At present there was too much divergence of law and practice in this respect. Now that so much trade was done by joint-stock companies, an assimilation of the law of companies would be of the greatest benefit to the mercantile community; it would also strengthen the confidence of the home investor in companies registered abroad, and would thus increase the flow of home capital into Indian and Colonial enterprises.

MATHER AND PLATT, LTD.—The directors have declared an interim dividend on the ordinary shares of 3%, being at the rate of 6% per annum, free of income tax, for the half-year to June 30.

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, and colours exported during July, 1907, as compared with July, 1906:—

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
			£	£
BLEACHING MATERIALS:				
To U.S.A. .....Cwts.	50,117	61,043	10,225	12,160
„ Other Countries „	25,715	26,187	6,122	6,155
Total ..... „	75,832	87,230	16,347	18,315
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	119,075	130,502	27,040	20,611
Carbolic Acid .. „	11,754	9,313	12,281	13,065
Naphthalene and Anthracene .. „	7,295	7,120	1,972	2,243
Other Sorts ..... „	503,995	442,103	61,484	49,204
Total .... „	642,119	589,038	102,777	85,123
COPPER, Sulphate of. Tons	1,245	1,426	39,027	34,425
CREAM OF TARTAR Cwts.	33	102	141	345
DYE STUFFS:				
Products of Coal Tar ..... „	6,409	2,362	19,659	9,841
Other Sorts ..... „	15,874	14,325	14,768	12,081
Total ..... „	22,283	16,687	34,427	21,922
GLYCERINE .....Cwts.	20,551	11,980	39,190	23,680
MANURE (Chemical):				
To Germany .. Tons	3,075	4,079	28,826	37,304
„ Belgium ..... „	72	110	511	534
„ France ..... „	6,015	779	23,349	7,638
„ Spain & Canaries „	8,702	6,027	64,892	44,590
„ British West India Islands (including Bahamas) & British Guiana .. „	549	819	6,420	8,346
„ Other Countries „	32,505	37,882	185,768	161,123
Total ..... „	50,978	49,696	309,766	259,535
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	89,233	126,755	4,016	5,578
Unenumerated Value £	—	—	158,839	132,805
Total	—	—	162,855	138,383
MURIATE OF AMMONIA ....Cwts.	13,917	9,668	17,778	12,570
PAINTERS' COLOURS AND MATERIALS:				
White Lead ..Cwts.	28,370	36,424	34,876	39,608
Nickel Oxide ..... „	—	2	—	20
Zinc Oxide ..... „	8,734	5,951	10,991	7,071
Other Sorts ..... „	140,514	140,537	180,004	180,665
Total ..... „	177,618	182,914	225,871	227,364
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	167,393	143,744	39,010	30,928
„ Bicarbonate „	47,685	35,750	14,409	11,209
„ Caustic ..... „	122,327	121,486	61,426	60,422
„ Crystals ..... „	18,433	17,351	3,349	2,863
„ Sulphate (Saltcake) „	113,581	78,085	9,999	6,381
„ Other Sorts „	30,688	26,465	32,120	10,461
Total ..... „	506,107	422,881	160,313	122,264

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July 1907.	VALUE. Month of July 1906.
			£	£
SULPHURIC ACID ..Cwts.	4,118	3,390	1,719	1,491
TARTARIC ACID .. „	76	55	423	291
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) ....Value £	—	—	253,308	247,668
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	158	683	191	429
„ Belgium ..... „	1,790	2,055	957	1,030
„ U.S.A. ..... „	4,688	3,816	6,348	4,853
„ British E. Indies „	23,631	17,715	13,474	9,002
„ Australia .... „	2,199	78	2,196	55
„ New Zealand . „	458	486	574	773
„ Canada ..... „	5,363	9,849	4,773	7,526
„ Other Countries „	32,499	26,283	28,922	19,109
Total ..... „	70,786	60,965	57,435	42,777

DUTCH MADDER.

MESSRS. W. BUNGE & CO., of Rotterdam, report as follows, under date August 1 :—

A quiet market has prevailed during the last month, with little of interest to report. Supplies remain light, and seem to be sufficient for the present demand. Prices are rather lower, and will not fail to attract more attention shortly. Present quotations, per cwt., in original butts, actual tare, free on board Rotterdam, are as under :—

Fine crop	55/-
Small crop	49/- to 51/-
Fine Ombros	42/6 „ 48/-
Good „	39/- „ 41/6
Small „	39/- „ 41/6
Regrounds	44/-
Mulls	7/- „ 11/-
Roots	— —
Garancine	50/- „ 75/-

THE INDIGO MARKET.

MESSRS. MILLWARD & CO. report as follows, under date August 12 :—

Since the July sales there has been a steady business at firm prices. The principal inquiry is for medium Bengal testing about 60%, which description is, however, scarce and relatively dear at present, better value being obtainable in the finer qualities. There is not much general demand for indigo, either for cotton or wool, but some large users have got to the end of their stocks, and are cautiously operating. Inquiries for export are much more numerous than orders, but there are indications that larger business will soon be booked. Reports from Calcutta concerning the new crop are far from satisfactory, and it now depends upon the second cuttings as to whether any increase on last year's yield will be shown by the final figures. Kurpah, of excellent quality, continues in good supply, but as shipments from Madras are now practically at an end for the season, consumers should make their choice while the good lots are still available. Guatemala and Java continue in small supply, and still realise relatively high prices.

Deliveries from London to August 8 were 1,953 chests and 470 serons, against 22,034 chests and 506 serons last year. Stocks in London on August 9 were 2,740 chests and 248 serons, against 2,859 chests and 578 serons last year.

WESTERN PIGMENT CO., LTD.—Registration has been made of a first mortgage debenture for £2,500., dated July 12, 1907, charged on the company's property, present and future.

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Continental Notes.

In the *Zentral-Blatt für die Kunstdünger-Industrie*, for July 7 and July 21, L. Herrmann writes on the occurrence and metamorphoses of nitrogen in nature. Although there is nothing original in the paper, it gives an interesting and clear account of the manner in which nitrogen compounds are provided for plant life, and the gains and losses of nitrogen in the soil. The new processes for utilising the nitrogen of the air are also briefly referred to.

The issue of July 7 also contains an account by M. Glassenapp on the working up of Central Russian phosphorites. He states that the increased demand for superphosphates, in the face of diminished outputs of raw phosphate in America and Algiers, has caused the price to rise, and that of the jute sacks used for packing is also 40% higher. Under these circumstances he suggests that the low-grade phosphorites of Central Russia might be utilised. In order to make them soluble and consequently available as plant food, they could be heated to a high temperature with lime in the blast furnaces which have proved unremunerative for the production of iron. Alternatively, the iron works might work their Bessemer furnaces by the basic instead of the acid process, and add phosphatic material so as to produce a basic slag rich in phosphorus.

The same issue contains an article on the position of the calcium cyanamide industry, giving a list and brief particulars of the companies that have been formed in the principal countries of Europe to exploit Frank's patents for the combination of atmospheric nitrogen in this form. In Germany, Italy, Austria-Hungary, France, and Switzerland such companies have been formed, and there is also an English firm, the North-Western Cyanide Co., which is erecting a factory at Odde, in Norway.

The composition and behaviour of a number of different samples of commercial factis in admixture with genuine india-rubber are given in the *Chemiker-Zeitung* for July 24. Altogether ten samples of these vulcanised oils were examined, and experimental vulcanisations were made with them, ten parts of each being added to 100 parts of rubber and five parts of sulphur; after vulcanisation they were tested as to tensile strength and oxidation, both with dry and moist air. In most cases the rubbers containing factis were found to be stronger than the pure rubber, and they were not more liable to undergo oxidation. In all cases the oxidation was much more rapid in dry than in moist air, which points to the advisability of keeping rubber articles in a place that is not too dry.

The detection of blood by means of benzidine forms the subject of a contribution by Utz to the same issue, and he recommends the method as being very delicate and sure. By means of it blood can be detected even when diluted with several hundred thousand times its volume of water. The reagent is made by dissolving the benzidine in glacial acetic acid and adding hydrogen peroxide; it must be prepared the same day as used, else it is not so delicate. When a solution containing blood is added to it, a green or blue coloration is formed. The reaction is not given by solutions of iron, but it is given by pus.

F. W. Himrichsen writes about a method for the volumetric determination of titanium, depending upon the reduction of ferric salts to ferrous by titanium trichloride or sulphate, which is thereby oxidised to the tetravalent state.

The autogenous welding of aluminium is described in the issue of July 27 by M. U. Schoop. As a flux he uses only chloride of lithium, sodium, or potassium, made into a thick paste and spread over the ends that are to be welded. This serves to remove the coat of oxide on the metal and protects it from the air. As no foreign metal is used, electrolysis cannot be set up, and the joint will last under water indefinitely. The joints are almost as strong as the body of the metal. The possibilities of the application of such a process are, of course, almost unlimited, as the use of aluminium for many purposes has only been restricted by the impossibility of joining it except with rivets or screws. For heating the ends up to the melting-point, the oxygen-coal gas or other similar flame is used. For electric conductors there is especially a good opening for the use of aluminium, as it is not only cheaper than copper, but also so much lighter that there is a considerable saving in the cost of the supports.

In the same issue, W. Fahrion has a short controversial note on the chemistry of the formation of leather.

IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during July, 1907, as compared with July, 1906:—

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
CHEMICALS:			£	£
Bleaching Materials Cwts.	15,465	17,843	3,741	5,153
Boracite, Borate of Lime, Borate of Magnesium, and Borax ... ,,	18,581	24,823	9,122	10,577
Brimstone ... ,,	35,417	87,823	9,068	18,872
Coal Products, not Dyes ... ,,	9,533	4,474	9,550	10,039
Cream of Tartar ,,	6,068	4,380	23,183	17,019
Glycerine ... ,,	2,270	2,071	4,123	3,127
Muriate of Ammonia ... ,,	321	831	476	1,061
Saltpetre (Nitrate of Potash) ... ,,	16,971	32,795	17,048	29,762
Soda Compounds ,,	37,155	21,285	14,275	7,697
Sulphuric Acid . ,,	4,014	8,023	278	422
Tartaric Acid .. ,,	3,043	3,862	14,565	18,927
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value £	—	—	230,961	206,890
DRUGS and MEDICINES:				
Bark, Peruvian ..Cwts.	3,212	1,721	5,689	3,094
Quinine and Quinine Salts .. ozs.	134,246	78,626	5,014	2,516
Unenumerated Value £	—	—	79,148	60,488
DYE STUFFS (other than DYE WOODS) and SUBSTANCES used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	71,071	46,019	31,011	20,266
Cutch ... Tons	608	258	12,832	7,202
Dyes, Coal Tar:				
Alizarine and Alizarine Dyes Cwts.	6,324	5,112	26,493	21,713
Aniline ... ,,	20,454	18,076	115,602	102,414
Synthetic Indigo ,,	2,424	2,493	9,358	9,720
Other Coal Tar ,,	106	—	530	—
Extracts ...Value £	—	—	66,790	64,600
Gambier ...Tons.	540	492	10,782	10,146
Indigo ...Cwts.	336	17	3,135	218
Myrabolans ... ,,	50,247	75,699	12,542	16,544
Valonia ... Tons	1,163	723	11,522	8,003
PAINTERS' COLOURS AND PIGMENTS:				
White Lead ...Cwts	29,461	26,729	31,478	21,707
Nickel Oxide ... ,,	975	1,800	5,200	10,546
Zinc Oxide ... ,,	24,261	22,925	28,152	25,222
Other Sorts ... ,,	154,008	150,035	80,866	71,850
Total ... ,,	208,721	201,489	145,696	132,325
MANURES:				
Bones, whether burnt or not ... tons.	1,780	4,147	7,451	19,424
Guano ... ,,	271	285	1,444	1,607
Nitrate of Soda (Cubic Nitre).. ,,	6,540	9,465	76,385	102,455
Phosphate of Lime, and Rock Phosphate ... ,,	46,505	43,494	89,997	69,348

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THE BRITISH ASSOCIATION.

SECTIONAL PROCEEDINGS.

SECTION B.—CHEMISTRY.

THE PRESIDENT'S ADDRESS (*Concluded from page 120*).

HAVING given a short summary of the present state of knowledge on one particular chemical topic, I may perhaps be permitted to conclude my address with a few general observations relating to the science as a whole.

The contemplation of such a life as that of Berthelot makes us realise in a vivid way the progress of chemical science. He was a chemist without limitation, his activity extending over the whole range of the science, physical, inorganic, and organic. Whilst we must not forget his exceptional powers, we cannot help feeling how different in its extent was our science when he entered upon his labours from what it was when they ceased, and we cannot help feeling how vain it now is for anyone to hope for so imperial a sway.

Yet it is difficult to believe that the state of chemistry can ever have been more interesting than it is at the present moment, or that anyone who sighs for the good old times can do so from anything but the love of a quieter life. We need not go back more than twenty years to find a sharp contrast. At that time there was indeed no want of activity, but it was that of a band of travellers who had left their frontier adventures far behind, and were marching steadily over a wide and almost uninterrupted plain. To-day we are among the mountains, with new peaks and prospects appearing on every side. Truly a steady head is required; and well may we ask, Whither are we going, and where is the path of progress and of safety? I rejoice to live in such times; but I feel no competence to describe them, still less can I pretend to have vision keen and comprehensive enough to let me figure as a guide.

One of the penalties of devotion to a progressive science is the constant feeling of being left behind, and the knowledge that, while we are attending to our personal task, things are happening, near or far, that may, for all we know, be affecting the simplest facts and the most elementary principles on which we have been accustomed to rely. This is a feeling that may well prevail at the present day. At the same time I do not think there is any occasion for panic, and I cannot help regretting the somewhat sensational language that has been used, even within our own circles, in regard to recent discoveries. The revelations attendant upon the investigation of radio-activity do indeed mark a distinct epoch in the history of chemical discovery, but that they entail anything like an unsettlement of our scientific articles of faith is not to be admitted for a moment. They make us realise in perhaps a not unprofitable way that scientific knowledge and scientific theories are necessarily proximate, never ultimate, and that ideas which may have been entertained for a long time without modification, and so have begun to seem perpetual, are, after all, only provisional.

There is certainly some embarrassment on finding that a substance like radium, which according to the conventions would be called a chemical element, breaks up so as to give substances which, according to the same conventions, are likewise called elements. But the confusion is one of terminology and not of ideas. I think it likely that few chemists of my own generation have been in the habit of regarding the conventional elements as the ultimate compositional units of matter. We know that in our own country distinguished men of science like Sir William Crookes and Sir Norman Lockyer have always insisted on the complex nature of the elements, and I suspect there are many among us who might own to having made sober, if unsuccessful, attempts at the resolution of elements before the days of radium.

The perplexities of chemists at the present day do not come, I think, from the novelty of the ideas that are being presented to them, but from the great rapidity with which the whole science is growing, from the invasion of chemistry by mathematics, and, in particular, from the sudden appearance of the subject of radio-activity with its new methods, new instruments, and especially with its accompaniment of speculative philosophy. There is an uneasy feeling that developments of great importance to the chemist are being made by experiments on quantities of matter of almost inconceivable minuteness. Spectrum analysis of course took chemistry beyond the limits of the balance, but the new materials which it disclosed could at least be accumulated in palpable quantity. With radio-activity we seem, in relation to the ponderable, almost to be creating a chemistry of phantoms, and this reduction in the amount of experimental materials, associated as it is with an exuberance of mathematical speculation of the most bewildering kind concerning the nature, or perhaps I should say the want of nature, of matter, is calculated to perturb a stolid and earthy philosopher whose business has been hitherto confined to comparatively gross quantities of materials and to a restricted number of crude mechanical ideas. He is tempted to think of Falstaff's reckoning and to exclaim with Prince Henry, "Oh, monstrous! but one halfpennyworth of bread to this intolerable deal of sack!" Experimental science has latterly been spun to greater and greater fineness, until in the region of the X-rays the objective element seems to have disappeared altogether.

I should, however, gravely abuse the position in which I am allowed to speak for the moment as a representative of chemists if I failed to express profound admiration for the masterly work which has been accomplished by the pioneers of the science of radio-activity. All that I wish to say beyond that, is in explanation of a certain awe or trepidation which chemists of the older school may feel in the presence of such bold explorers; and I am the more tempted to say something on the subject, because in recent times, before the advent of radium, a good deal has happened which has given chemists occasion to ask themselves whether chemistry was not beginning, as it were, to drift away from them.

The most conspicuous development of the science during the past twenty years has been, of course, on the physical side, and abundant have been its fruits; but it has seemed to demand from chemists habits and endowments which they did not normally possess, and which they could not easily acquire. I was much struck by a remark made to me a few years ago by a distinguished chemist, who is, I think, the most perfect manipulator I have ever seen at work, to the effect that he felt himself submerged and perishing in the great tide of physical chemistry which was rolling up into our laboratories. Now, it is precisely such men that must be preserved to chemistry. Though chemistry and physics meet and blend, there is, I believe, an essential difference between the genius of the chemist and the genius of the physicist, and I venture to think that some insistence on the primary functions of a chemist is not untimely. The chemist's first qualification is that he shall be master of a peculiar craft; his greatest merit that he is a consummate workman; his distinctive power a nicety of discrimination in questions affecting the composition and quantity of materials. He is not given to elaborate theories and is usually averse to speculation; nor has he usually an aptitude for mathematics. Such the normal chemist is, or was, and such I hope he always may be—naked perhaps in some respects, but unashamed.

There seems to be a solicitude in some quarters to make a chemist something more than a chemist, a solicitude which, if gratified, will, I believe, make him something less than one. We are told, for example, that a chemist should be a mathematician. I do not admit it for a moment. Some mathematics he must of necessity have—that has always been admitted—but in proportion as chemistry develops on the mathematical side does it become important, not that our chemists should be trained in mathematics, but that they should be more than ever carefully trained in the art of exact experiment; that their methods of work, their powers of observation, and, if possible, their experimental conscience, if I may use the expression, should acquire a finer edge. There is never more cause for anxiety than when we see a mathematical theory awaiting the delivery of the confirmatory facts, and there is nothing more important for chemistry than the continual recruiting of that old guard which will be ever ready to stand to arms on the appearance of an eager theorist.

I do not for a moment wish to disparage the adventurous spirits within or outside our science, still less do I wish to range myself with those who meet new ideas with mere objurgation or raillery. We must be content to see new alliances and new activities on the frontiers that separate us from other sciences; content to see many new kinds of chemistry arise in which we cannot all effectually participate. Chemistry is becoming bewildering in its extent, and it would be a great misfortune if this led to the notion that every chemist must try to enlarge his ambit to its confines and fit himself for every variety of work. Those of us who have responsibilities as teachers cannot, I think, be too careful, lest in the attempt to secure breadth we may encourage shallowness and fail to give our students that peculiar and time-honoured discipline in exactitude of work in chemistry proper, which has characterised the chemists of the past, and which is infinitely more important than superficial dealings with a great

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variety of processes and appliances. I confess that I have frequent misgivings as to whether our modern courses of instruction may not tend to turn our chemists more learned in the science and less perfect in the art than was the case under the ancient *regime*. There was, after all, great virtue in the system which often detained a student day after day, or perhaps week after week, on a single problem of chemical composition such as is involved in the exact analysis of fahl-ore. It is not easy to meet all requirements, but I think we shall all agree that, whatever is left undone, we must make a chemist a good craftsman. It is of the utmost importance that those whom we send out to work in the newer fields shall take with them the resources that have proved most serviceable in the old, and I think it is by supplying such men for special service, rather than by attempting to shift the centre of gravity of the whole system of chemical education, that we can best serve the newer interests.

Another perturbation within the chemical camp in recent times has come from the region of philosophy. Even before the days of radium we have been accused of clinging too fondly to our atomic theory and of stating our knowledge too exclusively in terms of that theory. We are said to have drifted into a dogmatism as real as any we ourselves have had to attack, and to shut our eyes to the light which will enable us to orient ourselves truly in the wide realm of thought. The answer that most of us would give would be, that we value our hypotheses according to their productiveness in new knowledge, and that it is, on the whole, perhaps better to over-exalt an hypothesis that is fertile than from high considerations of philosophy to allow our ideas to become so fluid that they can afford no rigid framework for thought. I think that the attempts to view chemical phenomena apart from the atomic hypothesis, interesting as they undoubtedly are, have not made us feel that this hypothesis has either misled us in any matter of fact or obscured any pathway that we might have followed with greater profit. The value of the thermodynamical treatment of chemical problems is attested by its fruitfulness in promoting fresh discoveries; and here we may welcome a valuable adjunct to the atomic hypothesis. But I do not think we are called upon to acclaim a new method of treating old questions unless it promises some more tangible result than an alleged improvement of our intellectual morals.

If, as I have ventured to hint, mathematics brings with it an element of danger into chemistry, I think that the intrusion of metaphysics would give far greater cause for apprehension. Philosophy always stands with open arms desiring a closer embrace of all the sciences, of which she declares herself to be the fond mother, whilst Science, as we understand the term, has stood reluctant, suggesting, as someone has wittily remarked, that she regards philosophy rather as a mother-in-law. It may perhaps be desirable, especially in the present state of things, that scientific men should allow themselves to become a little more interested in deep questions affecting all knowledge, and should at least examine with some care the gifts that Philosophy is so anxious to bestow upon us. I have a fear that otherwise in the elaboration of scientific theory we may find ourselves embroiled in an unequal contest with what I cannot but regard as the traditional enemy—I mean the unmitigated metaphysician—and the suggestion that I make is, to tell the truth, not so much for the hope of gain as from the desire of self-defence and the safe preservation of the methods that have served us so well in the past.

I think the accusation that we delude ourselves into the belief that our hypotheses are final truth is not true of any thoughtful chemist; the great men of science have surely possessed that quality of mind which philosophy would most approve. If, as has often been remarked, Faraday was mathematically-minded though untrained in mathematics, it seems not less true that he stood in the same relation to philosophy. When, for example, he was asked to express his opinions on the atomic theory, he wrote as follows:—

"I do not know that I am unorthodox as respects the atomic hypothesis. I believe in matter and its atoms as freely as most people—at least I think so. As to the little solid particles, which are by some supposed to exist independent of the forces of matter, and which in different substances are imagined to have different amounts of these forces associated with, or conferred upon, them (and which even in the same substance, when in the solid, liquid, and gaseous state, are supposed to have like different proportions of these powers), as I cannot form any idea of them apart from the forces, so I neither admit nor deny them. They do not afford me the least help in my endeavour to form an idea of a particle of matter. On the contrary, they greatly embarrass me; for after taking account of all the properties of matter, and allowing in my consideration for them, then these nuclei remain on the mind, and I cannot tell what to do with them. The notion of a solid nucleus without properties is a natural figure or stepping stone to the mind at its first entrance on the consideration of natural phenomena; but when it has become instructed, the like notion of a solid nucleus, apart from the repulsion, which gives our only notion of solidity, or the gravity, which gives our notion of weight, is to me too difficult for comprehension; and so the notion becomes to me hypothetical, and, what is more, a very clumsy hypothesis. At that point, then, I reserve my mind, as I feel bound to do in hundreds of other cases in natural knowledge."

This is the attitude of mind, I think, of all thoughtful chemists; if they do not exhibit it ostentatiously it is only because it is as disturbing to the proper work of a chemist for him to be constantly dwelling on the inward nature of his hypotheses as it is distracting in ordinary life to have men always talking about their emotions.

Few, I think, will deny that the atomic theory stands to-day as an indispensable instrument for productive chemical work; it has neither had its day nor ceased to be. Physicists have never been quite satisfied with the hard, indivisible ball of specific substance and definite mass which has served chemistry so well. They have given it bells, have made a vortex ring of it, and have indeed done much that few chemists can understand to make it meet the exacting requirements of their science. But to us it has always been the same, what we have done to it has been external; we have given it, vaguely perhaps, a charge of electricity, a store of energy; we have attached the hooks or rods of valency, but we have not meddled with its interior. We are now called upon by chemical considerations of change of composition, as well as by other considerations more recondite, to subdivide our atom, to credit it with an unsuspected store of energy, to consider it a congeries of unsubstantial electrons. We should wish, of course, to know that the evidence is good enough, but otherwise there can be no possible objection from our side; it will undo nothing that has been done, and we may have good hopes it will lead to the doing of many new things in chemistry. The newer theories are in consonance with the old in one most vital point: they afford those mental pictures of phenomena which most of us find indispensable for fruitful work. They do not belong to what Professor Schuster has characterised as "the evasive school of philosophy." "Those," he says, "who believe in the possibility of a mechanical conception of the universe, and are not willing to abandon the methods which from the time of Galileo and Newton have uniformly and exclusively led to success, must look with the gravest concern on a growing school of scientific thought which rests content with equations correctly representing numerical relationships between different phenomena, even though no precise meaning can be attached to the symbols used." Most of us, I think, will take comfort in this pronouncement and rejoice that if our conception of the atom is to be transformed, it may still be represented as having some kinship with what Sir Henry Roscoe's famous examinee described as the "square blocks of wood invented by Dr. Dalton."

Analytical Notes.

THE CONSTITUTION OF AMMONIACAL LIQUORS.*

The features that have claimed attention this year in the laboratory investigations carried on concern the amount and distribution of cyanogen compounds and their estimation, both in the liquors and in their distillation products, especially in coke-oven liquors, which, as shown in last year's report (42nd Annual Report, Table E, pp. 40 and 41; and Table I, p. 46), differ materially from those produced and worked up in gas works residuals plant.

To rehearse briefly, in normal conditions, cyanogen, combined as ammonium thiocyanate, is the product of *secondary* reactions proceeding in the liquors themselves—with access of air oxidation of ammonium sulphide results in the formation of some ammonium polysulphide, which immediately parts with its sulphur to the ammonium cyanide, which latter, as shown by the examination of virgin liquors, is one of the simple products of condensation. The greater the amount of storage for the liquor the longer are the opportunities for operation of the secondary oxidation reactions. In coke-oven works, the storage room being usually restricted, the operations of secondary reactions in the liquors are restricted in like manner, so that; though in such liquors the proportion of total cyanogen to ammonia may be less than in liquors from gas works sources,

* From the 43rd Annual Report on Alkali, etc., Works, by the Chief Inspector.

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Coke Oven Liquors.

(*As fed to still.*)

Type of Oven.	In Liquor. Grammes per 100 c.c.				Saturator Gases. Per 100 Vols. (By theory.)		
	Total Ammonia.	Carbonic Acid.	Sulphuretted Hydrogen.	Hydrocyanic Acid.	CO_2.	H_2S.	HCy.
Hüssner :—							
1 sample	.935	.946	.292	.058	66.6	26.7	6.7
Koppers :—							
Average of 3 samples	1.261	1.246	.173	.018	83.1	14.9	2.0
Otto-Hilgenstock :—							
Average of 12 samples	.841	.892	.230	.041	71.0	23.7	5.3
Semet-Solvay :—							
Average of 7 samples	1.202	1.111	.193	.035	78.4	17.6	4.0
Simon-Carves :—							
Average of 7 samples	1.018	1.206	.132	.027	84.8	12.1	3.1
Average of 30 samples ..	1.012	1.053	.195	.035	77.3	18.5	4.2

Cyanogen Compounds in Coke Oven Liquors.

(*As fed to still.*)

Liquor.	Grammes per 100 c.c.					Distribution of Cyanogen. Per Cent. of Total present.			Per Cent. Total Cyanogen to Ammonia.
	Ammonia.	Cyanogen in Terms of HCy.							
	Total.	Cyanide.	Thio-cyanate.	Ferro-cyanide.	Total.	Cyanide.	Thio-cyanate.	Ferro-cyanide.	
Maximum cyanogen ..	1.109	.048	.062*	Nil	.110	43.5	56.5	Nil	9.9
Minimum cyanogen ..	1.470	.011	.018	Nil	.029	38.0	62.0	Nil	2.0
Average (24 liquors)...	1.014	.034	.021	Nil	.055	62.0	38.0	Nil	5.4

*Thiocyanate high ; this is attributed to the fact that the sulphate plant was idle 2 days before sample was taken ; liquor, therefore, would be partially oxidised.

Coke Oven Works.

Devil Liquors.

Devil Liquor.	Average Tem'ture °F.	In Devil Liquor. Grammes per 100 c.c.			Per 100 Volumes of Gases condensed (calculated).			Saturator Gases HCy Per Cent. (By theory)
		Carbonic Acid.	Sul'retted Hydrogen.	Hy'cyanic Acid.	CO_2.	H_2S.	HCy.	
Cold :—								
1. *One sample.* 50° F.	50	3.720	.516	.733	67	12	21	4.6
Hot :—								
2. *Average of 3 samples* 90°F. to 100°F.	93	.064	.017	.081	29	10	61	4.9
3. ,, 9 *samples* 140°F. to 170°F. ..	157	.065	.011	.023	56	12	32	3.7
4. ,, 5 *samples* 180°F. to 200°F. ..	188	.024	.002	.012	53	5	42	5.3

the mode of its combination is markedly different, cyanogen volatile as hydrocyanic acid far exceeding, as a rule, that fixed as thiocyanate or ferrocyanide, while the reverse obtained in samples of liquors examined from gas works sources.

Some examination, moreover, has been made of the cyanogen contents of the liquors proceeding from condensation of the steam and fuel gases from the sulphate of ammonia saturators after extraction of the ammonia ; owing to the high proportionate solubility of hydrocyanic acid, these liquors (described in the trade very appropriately as "devil liquors") were found when drawn from the *cold* end of the condensing apparatus to contain this substance in very marked amount, so that the precautions needed in handling such liquors or transferring them from one receptacle to another should be clearly set before the workmen employed by those responsible for the manufacture. I have come across one instance where such cold liquor contained regularly from 0.7 to 1% of this poisonous compound.

In addition to the work carried out by Mr. Linder in perfection of analytical methods and their application to the often difficult conditions found existing in the works, the inspectors themselves have been engaged in applying these methods to the various liquors derived from coke-oven works in their respective districts. Conditions of working vary, and properties of coal vary from work to work, and district to district. Of the bulk of the work, only a summary of average results is presented here in tobular form.

In the first of these tables the analytical results obtained, and the calculations deduced therefrom of the composition of saturator gases, are presented arranged according to the type of oven employed. This appeared, on the whole, to offer the least disadvantages. To have presented results in geographical distribution would have, perhaps, led to misleading conclusions.

In South Wales, for instance, the number of coke-oven works is as yet small. The table, therefore, follows the alphabetical order of arrangement of tables B, E, G, in last year's report.

As regards the second table, averaging results in 24 works situated in widely different parts of the country in various coalfields, comparison may be made with Table E (42nd Report,

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pp. 40 and 41) compiled from analytical results of samples of liquors in 1905. The proportion of non-volatile cyanogen has increased this year on the average: so, too, has the strength of the liquors produced; this latter feature is usually an indication of effective washing and scrubbing of the gases by a smaller volume of liquor with greater opportunities for recirculation of the latter.

Occasionally liquors are met with where the oven flues are defective, allowing access of fuel gases heating the oven wall into the interior of the ovens themselves. The existence of these defects is usually recognisable during analysis of the resultant liquors. Should the defects be serious, loss of ammonia results, and there is an undue proportion of oxidised secondary products. Phenoloid bodies then also become prominent; the liquors are low in cyanogen content, and sulphur as thiosulphate increases. Periodical analysis of the liquors for characteristic compounds is therefore an extremely valuable aid in the conduct of the process.

In the third table the samples of "devil liquor" have been grouped according to temperature at point of sampling. The results indicate the need of precaution in making provision for handling, transferring, or for disposal of this very noxious and offensive liquid. Where such liquids mix with the effluent from the ammoniacal liquor stills leaving the works, stress has always been laid on the importance of so designing plant that these should be taken off from the plant at the *hottest possible* point in the condensing system. The figures in the table show the progressively decreasing contents of sulphuretted hydrogen and hydrocyanic acid in the liquors as temperature rises. The figures in the last two columns show the superior solubility of hydrocyanic acid at all temperatures over that of the other permanent gases, carbonic acid and sulphuretted hydrogen, and so in what respect the devil liquors are more noxious than the original liquors from which they are derived. The absolute amounts in grammes per 100 c.c. may be compared with those set out in the table of the contents of the ammoniacal liquors themselves.

In the accompanying table are set out results of analyses of samples of liquors at different times and under varying conditions in two individual works where the volatile cyanogen contents of the gases were found to be high.

Mr. Linder's work has continued to be of very responsible character, the problems presenting themselves for solution in the works tests requiring no small ability and ingenuity in adapting analytical methods to the exigencies of works conditions. I have asked him to present his work in a special memorandum.

(*To be continued.*)

Selected Correspondence.

THE NEXT MOST PRESSING EDUCATIONAL REFORM.

(*To the Editor of The Times.*)

Sir,—It may be well, before the long vacation is upon us to state a point of educational reform which ought to receive attention as soon as possible. In the organisation of secondary education—by far the most pressing of real educational questions—there is nothing more sorely needed than a unification, upon a broad, national plan of the various matriculations and school-leaving examinations now conducted in the most illogical way by the various Universities and by various professional bodies. Every headmaster of the secondary schools, both public and private will acknowledge that the muddle grows yearly greater. What with the examinations of Oxford and Cambridge Boards, matriculations, old and new, little-goes, previous examinations, entrance examinations for Civil Service and for the Law bodies and the technical colleges, many of which now hold their own special entrance examinations, the schoolmaster finds every year an increasing incubus in the conflicting claims of this disorganised chaos. It is true that some of the Universities have been forced by the pressure of events into partial recognition of one another's examinations. But it is nothing less than a scandal that the University of London and the University of Manchester, which hold very similar examinations, and which both accept certain other examinations as their equivalent, refuse to recognise one another's matriculations as being mutually equivalent. The thing is more ridiculous when once one perceives that the work of examining the boys of secondary schools to test the quality of their secondary education is not really University work at all. What is wanted is a sensible, universal, elastic system of school-leaving examinations, conducted by Government in conjunction with the masters of the schools, akin to, but certainly not slavishly copied from, the system of Abiturienten examinations of the secondary schools of Germany and Austria. The Universities would thus be relieved, as the Continental Universities are, from this burdensome task. The colleges for higher education, by excluding all who were unable to produce such a maturity certificate from a secondary school, would be relieved of those ill-trained students who at present embarrass and lower their teaching. The professional bodies would have a simple standard of preliminary education, instead of a perplexing and uncertain multiplicity of standards. The public would have a far better test of the relative efficiency and general standing of the secondary schools than it at present possesses. Certainly the University colleges and the technical day schools and colleges would benefit enormously. The London training colleges and London polytechnics (day departments) would be able at once to start from a surer educational basis by refusing admission to all who have not come up to the matriculation standard. At present, this cannot be done because, amid the conflicting and multitudinous examinations, the secondary schools have not before them a clear and definite goal.

May I be permitted to emphasize the pressing nature of this reform by reference to the action of the Institution of Civil Engineers? It is well known that this, the leading professional body amongst engineers in this country, many years ago organised an entrance examination, for students of engineering wishing to join its ranks; and in many other ways it has manifested its interest in the right training of the youth of this country as engineers. Three years ago it appointed a most influential committee to report on the education and training of engineers. This committee, presided over by Sir William H. White, K.C.B., F.R.S., presented in April, 1906, their report, which was unanimously adopted by the council of the Institution. In the forefront of their suggestions the committee placed the following recommendations:—

A leaving examination for secondary schools, similar in character to those already existing in Scotland and Wales, is desirable throughout the United Kingdom. It is desirable to have a standard such that it could be accepted by the Institution [of Civil Engineers] as equivalent to the studentship examination, and by the Universities and colleges as equivalent to a matriculation examination.

Though thus formulated by a most responsible body, representing not only the Civil Engineers, but also the Institutions of Mechanical and of Electrical Engineers, of Naval Architects, of Gas Engineers, of Mining Engineers, and the Iron and Steel Institute, this recommendation has apparently fallen on deaf ears. The Board of Education has utterly ignored it. In this matter we are behind Scotland, Wales, and Ireland. We are, in fact, no further forward than 40 years ago, when Matthew Arnold, one who assuredly looked at the matter from no narrow professional standpoint, uttered the warning: "Organise your secondary education." Secondary education has, indeed, been partially organised; but it lacks definite focus. Meantime the Universities are, in their muddled way, trying to make good the defect; and in so far as they are succeeding, it is by going out of their legitimate sphere and doing that which ought to be done once for all, nationally, as the inherent corollary of secondary education.

I am, Sir, your obedient servant.

SILVANUS P. THOMPSON.

A New Russian Electrolytic Concern.—The Joint-Stock Electrolytic Factories Association is being formed in St. Petersburg to operate in the sense indicated by its title. Capital, £30,000. The organiser is State Councillor A. N. Ratkoff-Roshnoff.

Calico Printers' Association.—The directors announce, subject to audit, that after charging £224,711. for depreciation, repairs, renewals, and upkeep, and £128,000. for debenture interest, the accounts for the year ended June 30, 1907, show a net profit of £424,040., which, with £134,403. brought forward from last year, leaves a balance of £558,444. Out of this sum an interim dividend for the half year ended December 31, 1906, amounting to £75,402., has already been paid on the preference shares leaving £483,041. available to be dealt with for dividends, capital reserve, and such other purposes as may be thought desirable.

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THE RUSSIAN CHEMICAL MARKETS.

THE St. Petersburg chemical market report, dated August 2, represents the tendency for the preceding fortnight as featureless. Sulphate of copper is noted at 6 roubles 60-65 copecks per pood; Chili saltpetre, 1 r. 90 c. to 2 r.; superphosphate, 16-17%, at 65-70 copecks; red lead, 4 r 80 c. to 5 r.; bichromate of potash, 8 r. 40-50c.; white lead, 5 r. 5-15 c.

The Riga market for the same period was also without noteworthy feature, and quotations were:—Borax crystals, 4 r. 45-70 c.; white lead, 4 r. 80 c. to 5 r.; sulphate of copper, 6 r. 75 c. to 7 r.; French verdigris, 19 r. to 19 r. 50 c.; Chili saltpetre, 2 r to 2 r 10 c.; Russian turpentine, 3 r. 10-30 c.; superphosphate, 13%-14%, 52-56 c.; bichromate of potash, 8 r. 50-75 c.

Prices on the Warsaw market were:—Borax crystals, 4 r. 90 c.; white lead, 5 r. 80 c.; sulphate of copper, 7 r. 35 c.; Chili saltpetre, 2 r. 18 c.; Russian turpentine, 4 r. 25 c. Superphosphate, 12%-13%, 52 c.; red lead, 5 r. 90 c. Bichromate of potash, 9 r. 60 c.

The chemical market at Odessa is firm, and some items have risen in value, though the demand is reserved. Borax crystals are quoted 4 r. 80 c.; English white lead, 6 r. 5-15 c.; wood spirit, 95%-96%, 7 r. 40-70 c.; sulphate of copper, 6 r. 85 c. to 7 r. 5 c.; Chili saltpetre (unrefined), 2 r. 15-25 c.; bicarbonate of soda, 2 r. 30-40 c.; red lead, 5 r. 35 50 c.; sulphuric acid, 66° B., 1 r. 25 c.; bichromate of potash, 9 r. to 9 r. 20 c., all per pood.

Rosario Nitrate Co., Ltd.—The directors have declared an interim dividend on the share capital of 3%, free of income tax, on account of the financial year to September 30.

Reported Swedish Sugar Combination.—It is reported from Stockholm that the Swedish sugar manufacturers have decided to form a combination with a capital of 135 million kroner.

Will.—The will of Alderman Christopher Kay, of Ravenscroft Hall, Middlewich, for many years connected with the Cheshire salt industry, formerly a partner in the firm of Messrs. Kay and Blackwell, and subsequently managing director of the Cheshire Amalgamated Salt Company (now merged into the Salt Union), has been proved at £136,368.

Copper Mirrors.—In a paper read before the Chemical Section of the British Association, Mr. F. D. Chattaway observed that the importance from the point of view of the health of the workpeople of obtaining a substitute for the tin amalgam used in the manufacture of mirrors has led many chemists to study the conditions under which metals are deposited from aqueous solution. These investigations have, however, usually had for their object the preparation of a liquid which would deposit a uniform and coherent layer of silver over a large glass surface at the ordinary temperature. Liebig was the first to solve this problem satisfactorily, and his method in which milk sugar is the reducing agent was formerly extensively used. Other metals are not so easily deposited, and copper, which from its close relationship to silver one would expect to behave similarly, has never been observed to be so laid upon glass. Although copper mirrors have never been obtained by deposition of the metal from an aqueous solution, Faraday, about the time when silver mirrors were attracting much attention, made the interesting observation that a mirror-like deposit could be obtained by dissolving a little oxide of copper in olive oil and heating plates of glass in a bath of this liquid up to the temperature at which the oil decomposes. The mirrors, however, obtained by Faraday's method, if of any size, are liable to be stained or discoloured in patches by decomposition products of the oil, and they are, moreover, generally lacking in brilliancy. Further, as the deposition of the metal only takes place when the oil decomposes, the process is excessively disagreeable to carry out; and since the oil is spoiled it is also somewhat costly. In the course of an investigation on the oxidation of aromatic hydrazines, the author made the observation that when solutions of cupric oxide are reduced by these compounds the metal is deposited upon the glass in the form of a brilliant coherent film if clear vessels are used. The mirrors obtained by this method are very beautiful, as they show the lustrous red colour of burnished copper, and are as perfect in reflecting surface and as uniform as the similar mirrors obtained by the deposition of silver. It seems probable that this method of depositing copper upon glass could receive important application in the production of objects of art.

IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS IN JUNE.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during June, 1907, as compared with June, 1906:—

ARTICLES.	QUANTITIES. Month of June.		VALUE. Month of June.	
	1907.	1906.	1907.	1906.
CHEMICALS:			£	£
Bleaching Materials Cwts.	11,463	25 678	3,593	6,222
Boracite, Borate of Lime, Borate of Magnesium, and Borax ..... ,,	11,891	15 573	5,621	6,021
Brimstone .... ,,	30,003	49.376	7,363	11,547
Coal Products, not Dyes .... ,,	7,240	10,141	7,208	6,566
Cream of Tartar ,,	6,274	5,387	24,839	19,943
Glycerine ..... ,,	4,095	4,974	7,113	7,750
Muriate of Ammonia .... ,,	505	534	630	676
Saltpetre (Nitrate of Potash) .... ,,	13,679	13,789	13,578	12,251
Soda Compounds ,,	28,304	19,777	9,532	6,585
Sulphuric Acid . ,,	8,520	8,021	664	414
Tartaric Acid .. ,,	4,303	4,104	21,517	18,982
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value £	—	—	223,592	166,662
DRUGS and MEDICINES:				
Bark, Peruvian ..Cwts.	1,741	2,248	3,494	4,806
Quinine and Quinine Salts .. ozs.	37,589	108,690	1,407	3,160
Unenumerated Value £	—	—	97,919	76,552
DYE STUFFS (other than DYE WOODS) and SUBSTANCES used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	38,217	46,742	15,241	21,635
Cutch ..... Tons	776	531	17,167	12,255
Dyes, Coal Tar:				
Alizarine and Alizarine Dyes Cwts.	6,287	4 082	25,325	17,150
Aniline ..... ,,	18,253	14,795	102,803	86,892
Synthetic Indigo ,,	2,918	3,399	11,400	12,719
Other Coal Tar ,,	113	14	738	27
Extracts .....Value £	—	—	55,755	54,151
Gambier .....Tons.	458	600	8,546	11,672
Indigo .....Cwts.	711	282	8,482	4,182
Myrabolans .... ,,	69,318	76,607	17,410	19,482
Valonia ..... Tons	1,556	1,880	16,369	19,479
PAINTERS' COLOURS AND PIGMENTS:				
White Lead ....Cwts	22,079	16,181	23,354	14,864
Nickel Oxide .... ,,	1,021	1,870	5,445	9,993
Zinc Oxide .... ,,	24,578	24,765	28,292	27,251
Other Sorts .... ,,	101,625	138,633	69,022	69,980
Total ..... ,,	149.303	181,449	126,113	122,088
MANURES:				
Bones, whether burnt or not ..... tons.	2,062	2,147	9,939	8,350
Guano ..... ,,	866	219	5,949	1,269
Nitrate of Soda (Cubic Nitre).. ,,	6,610	9,598	71,975	103,599
Phosphate of Lime, and Rock Phosphate ..... ,,	31,445	35,837	54,320	52,895

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during July, 1907, as compared with July, 1906:—

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
Oil Seeds.				
Cotton:			£	£
From Egypt .Tons	8,717	14 191	69.563	91,762
,, Other Countries . ,,	43.358	28,304	248,009	146,417
Total ... ,,	52 075	42 495	317,572	238,179
Flax or Linseed:				
From Russia .Qrs.	18,621	2,049	40,977	3,810
,, U.S.A. . ,,	7,840	569	16,804	1,211
,, Argentine Republic . ,,	50 903	66,524	107,939	132,701
,, British East Indies ,,	92,021	34,066	204 451	66,212
,, Other Countries . ,,	19.324	27,033	41,024	55 983
Total .. ,,	188,709	130,241	411.195	259.917
Rape:				
From Russia .Qrs.	—	—	—	—
,, British East Indies ,,	29.970	11,206	59,649	22,153
,, Other Countries . ,,	747	198	1,836	536
Total .. ,,	30,717	11,404	61 485	22,689
Oils, Refined:				
Cocoanut..Cwts.	13,763	12,539	26,865	19,987
Cottonseed Tons	432	559	12,621	13.0 3
Olive.....Tuns	326	275	17,948	14,685
Palm.....Cwts.	2,159	938	3,779	1,270
Total Value £	—	—	61,214	49,005
Oils.				
Fish(train,blubber and Sperm) Tuns	4.858	3,343	94,786	55.934
Cocoanut,unrefined .... ,,	33.423	31,649	60 998	45,379
Olive ,, Tuns	637	1,176	23 930	39.345
Palm ,, Cwts.	208,754	174,582	260,623	208 579
Petroleum:				
Crude ....Glns.	—	—	—	—
Lamp Oils .. ,,	16 570,299	14,606,790	287,022	260,117
Spirit .... ,,	2,828,087	2,436.189	82,183	73,038
Lubricating Oils .... ,,	6,451,759	3.345 288	205,052	111,880
Gas Oil ... ,,	3.992,037	2,205 127	57,181	28,777
Fuel Oil ... ,,	—	—	—	—
Total of Petroleum ,,	29,842,182	22,593.394	631,443	473,812
Seed Oil:				
Cotton-seed Tons unrefined .. ,,	10	11	220	219
Linseed pure ,,	761	788	18,476	16,203
,, not pure ,,	164	97	3 514	1,930
Rape-seed ,,	493	697	14 491	16,910
Other Sorts ,,	932	238	25,477	6,495
Turpentine Cwts.	83,890	62 202	154,272	126,047
Soap Stock ,,	11,548	2,572	7,052	1,808

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
Tallow and Stearine:			£	£
From France Cwts.	4.182	5,253	8,336	7.824
,, U.S.A. .. ,,	56,517	44,196	88,125	60.714
,, Argentine Republic ,,	29,722	20,585	51,480	29,649
,, Australia ,,	56,972	42,160	97,162	59,182
,, New Zealand ,,	46,403	63,871	78,525	90,679
,, Other Countries ,,	41,476	14,540	70,056	20,857
Total... ,,	235,272	190,605	393,684	268,925
Gum:				
Arabic ....Cwts.	16,604	7,223	25,953	8,778
Lac-dye, Seedlac, Shellac, and Sticklac ..Cwts.	10,880	5 581	107,657	52,650
Rosin .....Cwts.	223,332	213,641	133,499	102,258

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during July, 1907, as compared with July, 1906:—

ARTICLES.	QUANTITIES Month of July. 1907.	QUANTITIES Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
Grease, Tallow, and Animal Fat .. .Cwts.	61,841	73,707	£ 85,612	£ 95,735
Oils, Refined:				
Cocoanut - - Cwts.	791	1,814	1,519	2,789
Cottonseed - - Tons	2,158	1,464	62,659	30,199
Olive - - Tuns	30	13	3,601	713
Palm - - Cwts.	1,691	2,010	2,730	2,740
Total. Value £	—	—	70,509	36,441
Oils:				
Cocoanut, Unrefined Cwts.	4,775	970	7,994	1,411
Olive ,, ,, Tuns	—	—	—	—
Palm ,, ,, Cwts.	503	—	793	—
Oil, Seed:				
To Germany ....Tons	125	26	3,253	636
,, Netherlands ,,	3	6	80	119
,, Belgium .... ,,	85	17	2,119	391
,, Austria-Hung. ,,	8	22	237	390
,, Egypt .... ,,	89	149	2,351	3,323
,, Brazil .... ,,	250	259	7,187	5,892
,, British India ,,	98	91	2,633	1,598
,, Straits Sts. ,,	27	39	722	1,015
,, Ceylon .... ,,	4	19	146	404
,, Australia .. ,,	493	425	15,359	10,591
,, Canada .... ,,	26	217	720	4,525
,, Other Co'tries ,,	1,077	1,159	31,145	28,043
Cottonseed Oil, Unrefined .....Tons	3	3	84	63
Linseed Oil:				
Pure ..... ,,	1,739	2,065	50,032	48,648
Not Pure ..... ,,	210	169	5,448	3,759
Rapeseed Oil .. ,,	289	159	9,319	4,046
Other Seed Oils ,,	44	33	1,069	811
Total .... ,,	2,285	2,429	65,952	57,327
Soap Stock ,,	4.494	981	5.750	826

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Continuous Kilns. W. Oates. 17,270. July 29.
Testing Nitro-Explosives. W. E. Martin and Kynoch, Ltd 17,284. July 29.
Obtaining Dry Products from Liquids and Semi-Liquids. D. M A. G. Hawes. 17,323. July 29.
Roasting and Sintering Ores. A. S. Dwight and R. L. Lloyd. 17,343 and 17,344. July 29
Purification of Trade Liquids, etc. R. Malabar. 17,389. July 30.
Injectors. S. L. Kneass. 17,423. July 30.
Treatment of Benzine. T. Clarkson, J Burgess, and M. Anfilogoff. 17,440. July 30.
Electrolytic Cells. A. S. Hickley. 17,458. July 30.
Nitro-Compounds. T. R. Wolffenstein and O. Boeters. 17,521. July 31.
Briquettes. W. F. Collins. 17,546. July 31.
Cement Manufacture. K. Müller. 17,562. August 1.
Treating Smoke and Fumes. R E. Disher and J. Goldring. 17,580. August 1.
Colouring Matters. G. W. Johnson. 17,610. August 1.
Reduction Products of Para-Aminophenylarsinic Acid and its Derivatives. O. Imray. 17,619. August 1.
Dyes. E. Ulrichs. 17,675, 17,676, 17,677. August 2.
Centrifugal Separation of Gaseous Mixtures. G. J. Stevens and W. E. Richards. 17,688. August 2.
Filter Presses. A G. Hopper. 17,691. August 2.
Briquettes. L. H. Borel. 17,700. August 2.
Camphor Substitutes. J. Everett and J. J. Cox. 17 723. August 2.
Kilns. F. T. H. Goodwin. 17 728. August 3
Sulphurised Dyestuffs. J. Hirschberger, D. Maron, and Levinstein, Ltd. 17,749. August 3.
Treatment of Ores. W. J. Lavington. 17,779. August 3.
Separating Solid Matter from Fluids. W. B. Baron and the Fuel-Saving and Water-Treating Co., Ltd. 17,793. August 3.
Clarification of Fats and Oils. O. Hoffman. 17,799. August 3.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Ammonia Recovery Gas Plants. Crossley and Rigby. 24,144.
Removal of Impurities from Hydrochloric Acid Gases. Johnson. 16,910A.
Producing Hydrozy-fatty Acids. Imbert. 17,154.
Extracting Copper from Ores, etc. Gathy. 18,574.
Dyestuff. Newton. 20,802.

1907.

Concentrating Sulphuric Acid. Boult. 91.
Reaction Towers, Regenerating Chambers, etc. Scherfenberg 4,366.
Electric Transformer Furnaces. Grönwall. 7,791.
Pure Alpha-Naphthylamine. Chemische Fabriken vorm. Weiler-ter-Meer. 16,446.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Explosives. Dr C. Claessen, 45, Dorotheenstrasse, Berlin. British Patent, 24,240. April 30, 1906

This invention has reference to low explosives, for use in mines, of the kind which contain alum compounds, and has for its object to obtain explosives of this character by adding to the known constituents of nitrate of ammonia explosives chrome-alum or chrome-ammonia-alum.

The explosives in accordance with the invention, therefore, consist of ammonium nitrate, with or without the addition of other kinds of nitre (potassium nitrate, sodium nitrate, baryta nitrate), one or more carbon media (vegetable oil, animal or mineral fats or oils and resins), cellulose (flour sawdust, tan and the like), nitrocellulose or nitro compounds of the aromatic hydrocarbon series, and one of the double salts containing a high proportion of water of crystallisation, referred to above. Explosives in accordance with the invention may be manufactured within the limits of:—60–70 parts ammonium nitrate; 20–10 parts potassium nitrate; 10–5 parts gun cotton, tri nitro toluol, nitro benzol, nitro naphthalin and so on; 2–5 parts vaseline, oils or resins; 10–5 parts chrome-ammonia alum, or chrome alum.

Improvements in and Relating to the Preparation of Ammoniacal Copper Solutions. A. Lecoeur, 98, Avenue du Montriboudet, Rouen, France. British Patent, 16 442. July 20, 1906.

The inventor claims:—(1.) In and for the preparation of concentrated solutions of hydrated cuprammonium oxide, by oxidation of metallic copper in the presence of ammonia and water, adding to the liquid in the cold a quantity of caustic soda or potash approximately equivalent to the amount of nitrous acid formed during the reaction and dialysing the resulting solution of hydrated cuprammonium to remove impurities. (2.) A form of the process specified in Claim (1), wherein the dialysis of the solution of hydrated cuprammonium oxide is effected contemporaneously with its production, by circulating the liquid under treatment through the oxidation vessel and dialysing apparatus. (3.) A form of the process specified in Claim (1) or (2) wherein ammonia is added to the dialysed solution to compensate for the loss which may be sustained in the dialysis.

Improvements in the Manufacture of Acetone. L. A. A. Pagès, E. C. A. Camus, and R. P. T. Duchemin, trading as Pagès, Camus et Cie, 8, Rue Barbette, France. British Patent, 13,508, 1907. (Date claimed under International Convention, July 27, 1906).

This invention relates to improvements in the process described in the Specification No. 8,757 of 1906, and has for its object the employment of a vacuum in the process of manufacturing acetone described in that specification.

It has been found that if, in place of carrying out the different phases of the manufacture at atmospheric pressure, a reduced pressure is employed, a considerable decrease in the temperature necessary for the reaction is effected. It is thus possible to greatly reduce the expense of fuel, and, moreover, as the temperature of reaction may be thus kept sufficiently low to avoid partial decomposition, either of the acetic vapours traversing the apparatus, or of the acetone produced, a larger yield is obtained and the acetone is purer. The necessary reduction of pressure, the extent of which may vary with the base or acetate employed, may be produced by any suitable means—for example, by a suitable regulation of the condenser or by the arrangement of an aspirator at the outlet end of the apparatus.

The Bank Rate.—On Wednesday last, the Bank Rate was increased to 4½%

Fletcher, Russell and Co.—The directors announce an interim dividend at the rate of 10% per annum on the ordinary shares for the half-year to August 31st.

Manchester Importers and Exporters' Association.—At a recent meeting held at Manchester, and largely attended by merchants and shippers, it was resolved to form, for their benefit, a Manchester Importers and Exporters' Association. A General Committee was afterwards appointed, which held a meeting, on Wednesday last, under the presidency of the Lord Mayor. It was proposed that an Executive Committee of thirty-five be appointed, and that the Committee be instructed to prepare a scheme defining the constitution and general scope of the functions of the Association, and to submit the scheme when prepared to a meeting of the General Committee.

Miners and the Eight Hours Day.—At the Westminster Palace Hotel, on Thursday last, a meeting was held of the Mining Association of Great Britain, and another of the Executive Committee of the Miners' Federation, which were preliminary to a Conference to consider the Government Eight Hours Bill for miners. This conference will take place between the coal-owners and the miners. The Bill has never before been discussed by the two parties, having only been printed about a fortnight ago. If the intentions of both parties are carried out it is expected they will be able to come to an agreement which will enable such amendments to be made in the bill that the measure when it comes up for discussion in the next session of Parliament will be practically an agreed Bill.

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Stock and Share List.

WEEK ENDING AUGUST 14, 1907.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	CLOSING PRICE DAY PREVIOUS TO					
				Thursday, August 8.	Friday, August 9.	Saturday, August 10	Monday, August 12	Tuesday, August 13.	Wednesday, August 14.
120,000	1	1	Bell's Asbestos ... ... ord.	1 11/16 1 15/16	1 11/16 1 15/16	1 11/16 1 15/16	1 11/16 1 15/16	35/7½	1 11/16 1 15/16
	Stock	100	Borax Consolidated 4½% deb. stock red.	110 112	110 112	110 112	110 112	110 112	110 112
80,000	10	10	Do. ... ... pref.	11⅛ 11⅜	11 9/32	11 5/16	11 5/16	11⅛ 11⅜	11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ... ord.	23/7½	23.6 23/9	23/9	23/6	23/6	23/6 23/9
1,50 ,000	1	1	Do. ... ... 5 % c.p.	20/9	20/9 21/-	21/-	21/-	21/10½	20/10½
35,000	10	10	British Dyewood ... ... ,,	4 4¼	4 4¼	4 4¼	4 4¼	4 4¼	4 4¼
600,000	1	1	British Oil and Cake Mills ... ord.	13/- 13/6	13/- 13/6	13/- 13/6	13/- 13/6	13/- 13/6	13/- 13/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ... ,,	45/-	44/10½	44/9	44/-	44/3	43/10½
10,000	10	10	Do. ... ... 6 % c.p.	12 5/16	12 5/16	12 3/16	12 3/16	12 1/16	12 3/16
1,472,154	1	1	Brunner, Mond, and Co. ... ... ord.	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16 5⅜	5 5/16	5¼ 5⅜
52 678	10	10	Do. ... ... 7 % pref.	17¼ 17½	17¼ 17⅝	17⅞	17¼ 17½	17¼ 17½	17¼ 17½
96,000	5	5	Bryant and May ... ... c.p.	12½ 13	12 1/16	12½ 13	12½ 13	12½ 13	12⅞
40 000	10	10	Buxton Lime Firms ... ... ord.	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛	6 6⅛
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ... ,,	20/-	20/6	20/6	20.6	20/9	20/9
450,000	1	1	Castner-Kellner ... ... ,,	25/-	24/9 25/-	24/9 25/-	24/9 25/-	21/9 25/-	24/9 25/-
16,000	5	5	Clayton Aniline ... ... ,,	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3	2¾ 3
12,000	5	5	Do. ... ... 6 % c.p.	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4	3¾ 4
6,000	10	5	Cleveland Salt ... ... 6 % m.p.	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3	2½ 3
20,000	10	10	Crosfield, J., and Sons ... ... c.p.	10 10¼	10 10¼	10 10¼	10 10¼	10 10¼	10 10¼
85,000	1	1	Fletcher, Russell, and Co. ... ord.	27 6 28/6	27/6 28/6	27/6 28/6	27/6 28/6	27/6 28.6	27.6 28/6
5,000	10	10	Do. ... ... 6 % c.p.	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 5/16	12 5/16 12 6/16	12 5/16 12 6/16	12 5/16 12 6/16
£ 5,223,235	Stock	100	Gas Light and Coke Co. ... ... ord.	95¼	95¼	95¼	95¼	94⅞	95
	10	10	India Rubber Co. ... ... ,,	15⅜	14½ 15½	15 1/16	15 1/16	14½ 15½	14½ 15½
	5	5	Lagunas Nitrate ... ... ,,	3⅛ 3⅜	3⅛ 3⅜	3⅛ 3⅜	62.6	3⅛ 3⅜	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co., Ltd. ... ,,	8	8	8	8	8	8
	5	5	Lautaro Nitrate ... ... ,,	10¾ 11¼	10¾ 11¼	10⅜ 11⅛	10⅜ 11⅛	10¾ 11¼	10½ 11
200,000	10	10	Lever Bros. ... ... 5 % c.p.	10⅞ 11⅛	10⅞ 11	10¾ 11¼	10¾ 11¼	10 7/16 11⅛	10 7/16 11⅛
400,000	10	10	Manchester Ship Canal ... ... ord.	22/9	23/-	22/9 23/3	22/9 23/9	23/-	22/6 23/-
400,000	10	10	Do. ... per 5 % pref.	32/3	32/-	32/- 32/3	32/- 32/3	31/6	30/6 31/6
120,000	1	1	Mardleberg ... ... ord.	30/9 31/-	30/9 31/-	30/9 31/-	30/9 31/-	30/9 31/-	30/9 31/-
185,145	1	1	Mason and Barry ... ... ,,	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛	2⅞ 3⅛
165,936	2/-	2/-	Mexican Gold & Silver Recovery ,,	1/6	1/6	1/6	1/6	1/6	1/6
110,007	10	10	Nitrate Railways ... ... ,,	12¼ 12¾	12¼ 12¾	12¼ 12¾	12¼ 12¾	12¼ 12¾	12¼ 12¾
228,540	10	10	Nobel Dynamite Trust ... ... ,,	15 5/16	15¼	15 11/32	15 11/32	15 5/16	15 5/16
	10	10	Do. ... ... share warrants	15 1/16	15 11/32	15⅜	15 5/16	15 1/16	15 1/16
200,000	1	17/-	Cakl ank Oil, Ltd. ... ... ord.	38/6	38/6	38/6	38/0	38/6	38/6
	1		Pears, A. and F. ... ... ,,	28 9	1⅜ 1½	1⅜ 1½	1⅜ 1½	1⅜ 1½	1⅜ 1½
70,000	10	10	Pease and Partners ... ... ,,	13⅛	13¼ 13½	13⅜	13⅜ 13⅝	13⅜ 13⅝	13⅜ 13⅝
37,500	16	16	Price's Patent Candle ... ... ,,	33	33	33	33	33	33
130,000	1	17/-	Pumpherston Oil, Ltd. ... ... ,,	11¾	12½	12⅞	12¾	12 13/16	12
10,000	10	10	Do. ... ... 6 % c.p.	13	13	13	13¼	13¼	13¼
325,000	5	5	Rio Tinto ... ... ord.	76⅛	76	77	76¼ 76¾	74 3/4	74
2,500	7½	7½	Robin and Houston, Ltd. ... ,,	5	5	5	5	5	5
239,479	1	14/2	Sadler and Co. ... ... ,,	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
200,000	4	4	Salt Union ... ... ,,	18/- 19/6	18/-	17/10½	17/6 18/-	17/6	17/3
100,000	6	6	Do. ... ... 7 % n.c.p.	4⅜ 4 7/16	4⅜ 4½	4⅜ 4½	4⅜ 4½	4 7/16	4⅜
£148,000	1	1	Sanitas Co., Ltd. ... ... ord.	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛	1 1⅛
	4	4	San Jorge Nitrate ... ... ,,	20/-	1 1¼	⅞ 1⅛	⅞ 1⅛	⅞ 1⅛	1 1¼
	1	1	Schibaieff Petroleum ... ... ,,	3/16 5/16	3/16 5/16	3/16 6/16	3/9	3/16 6/16	3/16 6/16
£6,250,000	Stock	100	South Metropolitan Gas	120 122	120 122	120 122	120 122	120 122	120 122
45,000	10	10	Steiner, F., and Co. ... ... 5 % c.p.	8⅞ 9⅛	8⅞ 9⅛	8⅞ 9⅛	8⅞ 9⅛	9 1/16	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur and Copper ... ,,	6⅛ 6⅜	6⅛ 6⅜	6¼ 6½	6¼ 6½	6¼ 6½	6 6¼
289,343	10	10	United Alkali ... ... ord.	82/-	82/-	81/3	81/- 81/6	80/-	80/- 81/-
282.524	10	10	Do. ... ... 7 % pref.	15 15/16	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12	11⅞ 12
80,000	1	1	United Indigo and Chemical ... ord.	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3	2/9 3/3
66,666	5	5	Willans and Robinson ... ... ,,	1⅜ 1⅝	¼ ⅜	¼ ⅜	¼ ⅜	¼ ⅜	¼ ⅜
210,000	1	1	Woolcombers ... ... 7 % c.p.	21/6 22/6	21/9	21/6	21/- 21/6	21/- 21/6	21/- 21/6
150,000	1	1	Yorks. Ind., Scar., & Col. Dyers ord.	1/- 2/-	1/- 2/-	1/6	2/-	1/6 2/-	1/6
112,202	4	4	Young's Paraffin & Min. Oil, Ltd. ,,	75/-	74/6	74/6	74/6	74/6	74/-

BRADFORD DYERS' ASSOCIATION.—The Board has decided to declare a dividend on the ordinary shares for the half-year to June 30 at the rate of 7% per annum.

BROKEN HILL SOUTH SILVER MINING CO.—During the half-year ended June 30, 101,380 tons of crude ore were treated by this company, producing 15,769 tons of concentrates. The ore reserves are estimated at 3,000,000 tons. The total working costs per ton of crude ore were £1. 0s. 5d. £10,637. has been written off for depreciation, and the net profits for the half-year were £93,899. The surplus carried forward is £95,906. and the net liquid assets on June 30 were £102,060. The capital expenditure was £43,102.

THE LABOUR MARKET.—The memorandum prepared by the Labour Department of the Board of Trade for the *Board of Trade Labour Gazette*, states that there was but little difference in the state of employment in July compared with June. As compared with a year ago, most of the principal industries showed some improvement. There was, however, some decline in the engineering and shipbuilding trades. There was a net weekly rise in wages during July of £12,500 per week. In the 273 trade unions, with an aggregate membership of 631,158, making returns, 23,291 (or 3.7%) were reported as unemployed at the end of July, 1907, compared with 3.6% at the end of June, 1907, and 3.6% at the end of July, 1906.

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NEW YORK PRICES CURRENT.

July 30, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8¼
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¼
„ „ „ Continental	„	0 7
Ammonia, Carbonate, lump	„	0 7¾
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	p r lb.	0 7
Potassium, Bichromate	„	0 8½
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7¼
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

The Companies Bill.—In moving the second reading of this Bill, in the House of Commons, Mr. Lloyd-George stated that it embodied the recommendations of the Select Committee appointed by Mr. Gerald Balfour. The principles underlying the Bill being fully explained in the memorandum, he thought it unnecessary at that time to go through the clauses. The Bill had been thoroughly handled and discussed in financial circles. There were, however, some clauses which had excited controversy, and these the Government did not propose to proceed with in the hope that the Bill might pass as an agreed measure. One of the clauses which would thus be dropped was in regard to the filing of accounts of private companies, and another was a provision which seemed to make it impossible for gentlemen who now audited the accounts of some concerns, and who were not accountants at all, but were appointed as experts, to continue to do so.—Mr. Fell, whilst admitting that the Act of 1900 required considerable amendment, called attention to some points of which careful consideration would be necessary in Committee.—Mr. Beale said a body of lawyers of considerable eminence in this country had serious points to submit for consideration; and this could not be an unopposed Bill in the sense that it could be disposed of in a short time.—Lord R. Cecil said it was unfortunate that such an important measure should have to be considered at that hour. The danger of certain restrictions was that they hit the honest fool and missed the clever rogue. The foolish investor, in whose interests the provisions were made, imagined that the Legislature had fully protected him, while some ingenious swindler found his way round them, and the last state of the investor was worse than the first. He earnestly pressed on the Government to consider whether it was really in the interests of the public to impose restrictions on the formation of companies.—Mr. Hills said the true line of company reform was to increase the responsibility of directors.—The Bill was read a second time.

Brunner, Mond and Co. and their Employés.—It is announced that the directors of Messrs. Brunner, Mond and Co. have decided to add sixpence to each pound earned during the year by those engaged by them for two years, and one shilling per pound to those whose service extends over six years. The sum will be placed to their account annually, and interest at 3% will be added. The scheme comes into operation as from last December.

Wages in the Coal Trade.—The Coal Conciliation Board for the federated mining districts in England and North Wales agreed on a further 5% advance in miners' wages from the first making-up day after September 13. This is the third advance of 5% which has been made during the present year, and brings wages up to 55% above the standard, or only 5% below the maximum fixed when the present agreement was made. When the Board met a month ago to consider the demand for an advance they found that they were unable to agree, and the employers promised that they would have the statistics ready for the meeting on Wednesday. Since the meeting the South Wales miners, who were only 2½% below the rates paid in the federated area, have received an advance of 5%, and the Northumberland miners have also received an advance. The Welsh miners are within 2½% of their maximum, while the federated area was still 10% below.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, July 30, 1907.

(Rate of Exchange, $4.87¼ = £1.)

Nitrate of soda remains firm, at $2.50. per 100 lbs. Sulphate of ammonia is dull at $3.05. per 100 lbs. Grey muriate for galvanising remains unchanged at 6c. to 6¼c. per lb., as to make. White electrical muriate is cheaper, at 5¾c. to 6¼c. per lb. Lump sal ammoniac is steady at 9¼c. per lb. for good white seconds. Lump carbonate of ammonia is 7¾c. to 8c. per lb. Bleaching powders are dull, and in rather plentiful supply. Alkali and caustic soda are both quite without new features, at prices previously quoted. Sulphate of copper, although held by the Syndicate at 7c. per lb., is offered at 6¾c. per lb. by outside makers. White powdered arsenic is quite dull but firm, at 7⅛c. to 7¼c. per lb. Red Saxony arsenic is steady at 7¼c. per lb. Calcined potash, 80-85%, is 3¾c. Hydrated is 4¾c. to 5c. per lb. Caustic potash, 75%, is 4¾c. Chlorate of soda is 8½c., and potash 8¾c., f.o.r. works. Bichromate of soda and potash are 7⅛c. and 8⅜c. per lb., under Syndicate control. Prussiate of soda is 9⅜c. and potash 10c., with business rather slow. Oxalic acid is 8¾c. Needle antimony is 8½c. for spot, and 7c. for shipment, while oxide is quoted at 11½c. for shipment.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols dull, with values given at 8d. to 8¼d. for 90's, and 8½d. to 9d. for 50-90's. Crude tar, 15s. 6d. to 20s. per ton, Thames, 1¼d. to 1⅜d. per gallon delivered; refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, London, 26s. to 26s. 6d., f.o.b.; Gas Company, 29s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. to 24s. 6d., forward 2s. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10½d. to 11d.; pure, 1s. 6d. to 1s. 7d. Carbolic acid, crude 50%, 1s. 5½d. to 1s. 5⅝d.; 60%, 1s. 8d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5¾d.; 34-35, 5⅝d. Cresylic, 95%, 1s. 1d. to 1s. 1¾d. Anthracene, 40 to 45%A, 1¾d. to 1¼d. Pyridin, 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, £12.; Beckton terms, £11. 12s. 6d. to £11. 13s. 9d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 16s. 3d. to £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s. 3d. and refined, 11s. 4½d. Official quotations:—Cargoes off coast or due, 11s. 1½d.; ditto for prompt shipmen, 11s. 6½d.

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FERTILISER MATERIALS.

THURSDAY.

Quietness still prevails in all markets for manure material.

East Indian bone meal for shipment is easier, £4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, would probably now be accepted for 4½ and 52%. Bombay quality; on spot, £5. 5s. to £5. 10s. per ton, according to quality, is required, ex store.

Nitrate of soda moves very slowly, but quotations remain steady at 11s. 1½d. per cwt. for 95% and 11s. 4½d. per cwt. for refined quality, ex store.

There is no change to report in mineral phosphates, the position remaining very firm.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £78. to £78. 5s. cash, and £75. to £75. 5s. three months. Tin: G.M. quality, £164. 5s. to £164. 15s. cash, and £163. 15s. to £164. 5s. three months; English, £168. to £169. Lead: soft foreign, August delivery, £19. 17s. 6d.; August-September, £19. 15s.; October, £19. 12s. 6d.; November, £19. 10s.; English, £20. 10s. Spelter: ordinary brands, September shipment, £22.; August shipment, £22. 5s. ex ship; hard, £18. 10s. to £19. f.o.b. Antimony, £36. to £38.; ore, £9. to £9. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 16s. Nickel, £175. to £185. Pig-iron closing prices:—Cleveland, 56s. 9d. cash, and 56s. 6d. one month.

MISCELLANEOUS CHEMICAL MARKET.

FRIDAY.

There is a continued fairly active market in most of the heavy chemicals and raw materials, and prices all round, on the whole, are firm. In the alkali trade there are no changes of consequence. Caustic soda, 70%, stands at £9. 15s., f.o.b. Liverpool. Ammonia alkali firm, at £4. 10s., bags, f.o.r.; and soda crystals, at 60s. Bleaching powder, for prompt and early delivery, at £4. 7s. 6d. to £4. 10s., f.o.r. and f.o.b. Chlorates are unchanged at 3½d. Sulphate of copper is again lower at £29. 10s., f.o.b. Sulphur, best thirds, £4. 12s. 6d., c.i.f. Saltcake, in bulk, is 40s. to 42s. 6d., f.o.r. and f.o.b. Potash, caustic and carbonate, are still in good request, and prices are steady at former quotations. Borax is unchanged at £15. per ton. Grey acetate of lime firm, at £12. 10s., c.i.f.; and acetic acids are practically unchanged at former quotations, though rather more freely offered. For sugar of lead there is very quiet demand. Prussiates are more active, and there is better inquiry, both for prompt and forward delivery; soda at 3¾d., and potash at 5¾d. Arsenic still fairly active, at £31. 10s. to £32. per ton. There is continued good demand for ammonia and ammonia salts.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil steady. Olive oil quiet at £37. 10s. to £38. 10s. for Levant, according to quality. Linseed oil dull, at 31s. 6d. to 32s. for Liverpool refined in export barrels. Cottonseed oil, 31s. 6d. to 32s. per cwt. for Liverpool refined in export barrels. Rosin quiet, with limited business passing at recent quotations. Tallow dull at 34s. per cwt., c.i.f. for South American mutton. Turpentine quiet at 41s. 9d. per cwt. on spot. Petroleum, firm, at 6¼d. for Russian and Roumanian, and 7d. to 8d. for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quiet. Pearl ash nominal. Bark dull. Logwood and fustic also quiet. Cutch inactive, with limited supplies. Gum arabic steady. Castor oil steady at 3 5/16d. for good seconds Calcutta, 3 11/16d. for first pressure French, 3½d. for second pressure French, and Calcutta 3¾d. for August-September shipment. Gambier steadily held at 18s. 3d. for block, and arrival parcels quoted at 18s. for June-July, July-August, and August-September shipment; spot parcels of cubes 28s. 6d., and 27s. 9d. to 28s. for August-September shipment. Shellac dull at 204s. for fair TN orange on spot. American powdered starch 10s. on spot, and 9s. 6d. c.i.f., for shipment; pearl, 9s. 6d. on spot, and 9s. c.i.f., for shipment. Glucose: American liquid, 43%, 10s. 4½d. on spot, and 8s. c.i.f., for shipment. Cream of tartar, 98% foreign powder, 80s. 6d. to 81s.; 95%, 79s. Tartaric acid: English on spot, 11¾d.; foreign, 10⅝d. Citric acid: English 1s. 11½d.; foreign, 1s. 11d.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—Values during the week have continued to fall, both in linseed and cottonseed oils, the former by 15s. and the latter by 10s. per ton on the week. Seeds also are a weak market, with linseed dropping and cottonseed little changed, with a quiet and very small business passing. Amongst the principal imports here to date, as against the same period a year ago, are:—Wheat, 2,446,477 qrs., against 2,449,845 qrs.; flour, 124,042 cwts., against 232,803 cwts.; linseed, 174,893 qrs., against 324,840 qrs.; rapeseed, 60,696 qrs., against 48,898 qrs. Cottonseed, Egyptian, 122,221 tons, against 107,061 tons; other kinds, 110,808 tons, against 91,776 tons. Oilcake, 17,557 tons, against 25,730 tons; hemp, 84,579 cwts., against 109,383 cwts.; olive oil, 3,439 tuns, against 2,872 tuns; tar, 3,599 brls., against 4,725 brls. Refined cotton oil quiet, at 27s. 9d. spot, naked; August, 27s. 6d.; September-October, 27s. 6d.; November-April, 23s. 9d.; casks £1., and barrels 27s. 6d. per ton extra. Exports during the week:—17 tons Belgium, 14 France, 32 Germany, 27 Holland, and 2 Norway; total, 92 tons. Cottonseed remains unchanged, with imports during the week of 5,061 tons. Linseed oil flat at the reduced prices, spot, naked, 21s. 9d.; September-December, 21s. 1½d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week:—115 tons Australia, 2 Belgium, 1 Egypt, 10 Germany, 7 India, 4 Norway, 2 Turkey; total, 141 tons. Linseed, Calcutta, 6d. lower; Plate, 3d. to 6d. lower. Imports during the week have been:—50,375 qrs. Turpentine, American, 42s.; Russian, easier business done at 20s. 6d. Rosin, from 11s., quiet. Castor oil, November-December, 30s. 6d.; January-June, 30s. 9d. for first pressure. Olive oil, £41. to £42. Cod oil, £16. to £19.

CAKES.—A steady market at last week's price.

PAINTS.—Unchanged.

TYNE CHEMICAL REPORT.

THURSDAY.

Chemical market steady, but no change to report in prices. Soda crystals, locally, £3. to £3. 2s. 6d. per ton gross weights. Bleaching powder, £5. to £5. 5s. per ton. Caustic soda, 70%, £9. 15s.; and 76-77%, £10. 10s. per ton. Sulphur, firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake) in bulk, £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market is still very firm, but actual business inclines to be quiet owing to long loading turn and general scarcity of all classes of coal for early shipment.

To-day's current quotations:—Best Northumbrian steam, 16s. to 16s. 6d. per ton; second qualities, 15s. 6d. to 15s. 9d. per ton; small steam coals, 10s. to 11s. per ton; good Durham bunkers, 14s. 3d. to 14s. 6d. per ton; coking coals, 14s. to 14s. 6d. per ton; household coals, 16s. to 17s. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

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WEST OF SCOTLAND CHEMICALS.

GLASGOW, Thursday.

For the new contract and delivery season, from now on to March 31, 1908, the Scottish mineral oil companies have agreed to charge their burning oils at from 6¼d. to 6½d. (see below) per gallon. In the case of No. 2 quality, however, the contract sales are to be under certain restrictions and within certain limits as to quantity. These figures represent a substantial improvement of the contract prices which ruled during the greater part of the foregoing season, 1906-1907. The other Scottish paraffin lines are all quite steady, at values for some time easily maintained. In the general chemicals the same slightly improving tendency as to movement continues, both as regards prompt and forward business, and with values steady. In sulphate of ammonia, Leith f.o.b. deliveries, the comparative steadiness of feeling remains, to-day's figure being £12. for prompt, though, as heretofore, with no great bulk passing.

Chief prices current are :—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow ; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool ; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow) ; bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne ; borax, English refined, £16., and boracic acid, £25., nett, Glasgow ; caustic soda, white, 76°, £10. 10s. ; 70-72°, £9. 15s. ; 60-62°, £8. 15s. ; and cream, 60-62°, £8. 15s., all nett, Liverpool ; chlorate of potash, 3½d., nett, Glasgow ; creosote (ordinary coal-tar and blast-furnace), 2¼d., naked, f.a.s. Glasgow ; nitrate of soda, 11s. 3d. ; paraffin scale, hard, 2d. to 2¼d. ; and soft, 2⅜d. to 2½d. per lb. ; paraffin wax, 120° semi-refined, 3d. to 3½d. ; paraffin spirit (naphtha), 10d. to 11d. per gallon ; paraffin oil (burning), special quality, 6¾d. ; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres ; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d. ; 885°, £6. 7s. 6d. to £7. 7s. 6d. ; 890-895°, £7. 2s. 6d. to £8. 2s. 6d. ; prussiate of potash, 6d., nett, f.a.s. Glasgow ; salammoniac, first and second white, £42. and £40., less 2½% any port ; saltcake, 40s. to 42s. 6d. ; soda ash, £5. 10s. to £5. 15s., nett, Tyne ; soda crystals, £3. to £3. 2s. 6d. ; sulphate of ammonia, £12., prompt f.o.b. Leith ; sulphate of copper, £30. 5s., less 5% Liverpool, prompt.

New Companies.

New Oil Refining Process, Ltd.—Capital £50,000., in £1. shares. This company has been formed to adopt an agreement with J. Noad, E. J. Townsend and W. McMullen, to which the Burmah Oil Co., Ltd., is to be a party, for the purchase of certain patents and patent rights, and to carry on the business of producers, refiners, storers and distributors of and dealers in petroleum and its products, etc. No initial public issue. The first directors are J. T. Cargill, J. Hamilton, E. J. Townsend and W. A. McMullen ; remuneration (except managing director) £150. each per annum. Registered office, Dixon House, Lloyd's Avenue, E.C.

United Egyptian Salt, Ltd.—Capital £300,000., in £1. shares. This company has been formed to adopt agreements (1) with the Egyptian Salt and Soda Co., Ltd., and the Port Said Salt Association, and (2) with the Egyptian Markets, Ltd., the Egyptian Salt and Soda Co., Ltd., and the Port Said Salt Association, and to carry on the business of salt and general merchants. No initial public issue. The first directors are to be appointed by the subscribers ; qualification £100. ; remuneration £250. per annum divided. Registered office, 1, Frederick's-place, Old Jewry, E.C.

Sungei Choh Rubber Estate Co., Ltd.—Capital £45,000., in £1. shares. This company has been formed to acquire and develop the Sungei Choh Rubber Estate, containing about 2,069 acres in Selangor, Federated Malay States, to adopt an agreement with Loke Chow Thye, L. R. Yzelman, Loke Chow Kil and N. Dalrymple, and to carry on the business of planters, growers and cultivators of rubber and other produce, etc. Minimum cash subscription 20% of the shares offered to the public. The first directors are A. Thomson, A. R. Venning, N. Dalrymple and R. B. Heinekey ; qualification £250. ; remuneration when dividends do not exceed 6%, £60. each per annum, with an additional £10. each for every additional 1% dividend in excess of 6%.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending August 3.

Acetic Acid—

Holland,	84 pks.	W. H. Muller & Co.
,,	30	P. W. Greeff & Co.
,,	1 crby.	T. H. Lee
,,	118	Little & Johnston
Norway,	40 pks.	Weber, Smith & Hoare

Alcohol (Methylic)—

U.S.A.,	4,669 g.	R.F. Knowlden
,,	7,840	T. H. Lee

Alum—

France,	1 cs.	Mory & Co.

Aluminium—

Germany,	1 t.	Prop. Hay's Wf.

Amyl Acetate—

Germany,	£125	T. H. Lee

Ammonium Sulphate—

Holland,	£275	Ohlenschlager Bros.

Antimony (Crude)—

N.S.W.,	7 t.	Leach & Co.
Holland,	1	Hoare, Wilson & Co.

Ammonium Muriate—

Holland,	£85	H. Lorenz
,,	128	A. & M. Zimmermann

Antimony Ore—

Straits,	23 t.	R. & J. Henderson
N.S.W.,	25	H. R. Merton & Co.
Straits,	150	E. Brewster
N. Zealand,	8	Union Lit Large Co.

Asbestos—

P. E. Africa,	10 t. 1 c.	I. & I. D. Jt. Co.
France,	5	T. H. Lee
Italy	9	Lunham & Moore
,,	£803	British Asbestos Co.

Argols—

France,	74 cks.	Thames S. T. & L. Co.
Italy,	95 950 bgs.	J. Jacob & Sons
Spain,	61 brls.	,,

Arsenic—

Portugal,	£240	Coverley & Westray
Victoria,	1,000	W. O. S. Bowditch

Barytes—

Germany,	100 cks.	F. Claydon & Co.
,,	120	Elkan & Co.
,,	15 pks.	F. Tank & Co.

Barytes—

Holland,	10 cks.	F. T. H. Nye
,,	50 bgs.	C. S. Lovell & Sons
,,	23 150	Felton & Crepin
,,	50	W. H. Muller & Co.
,,	52	J. L. Lyon & Co.
,,	58	Taylor Bros.
,,	100	J. Greig
Belgium,	294 450	Felton & Crepin

Bleaching Powder—

France,	15 t.	A. F. White

Bog Ore—

Holland,	180 t.	W. Hawkins & Co.

Boracic Acid—

Italy,	7 cks.	F. Claydon & Co.
,,	10 cs.	W. J. Scrivener
Germany,	20	A. & M. Zimmermann

Calcium Carbide—

Sweden,	7 t.	Elephant Chemical Co.

Caoutchouc—

Belgium,	10 c.	Props. Bull Wf.
,,	1	Prop. Hay's Wf.

Caoutchouc—

Straits,	2 t.	17 c.	Weber, Smith & Hoare
,,	7	4	Props. Bull Wf.
,,	3	8	L. & I. D. Jt. Co.
,,	8	11	E. Boustead & Co.
,,	4	5	Props. Butler's Wf.
,,	4	5	Prop. Hay's Wf.
,,	1	9	J. Harrison & Co.
Ceylon,		4	Chalmin's Wf.
,,		12	Brenner & Laycock
,,	1	10	Props. Bull Wf.
,,		8	Browne, Geveke & Co.
Germany,	1	15	Figgis & Co.
,,	1	16	Props. Hay's Wf.
,,	2	8	Craven & Co.
,,	2	10	L. & I. D. Jt. Co.
,,	1	19	C. Shaw, Lovell & Sons
Natal,	1	14	J. T. Rennie Sons & Co.
Portugal,	2	3	Lewis & Peat

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Caoutchouc—
Egypt, 16 t. 3 c. E. Boustead & Co.
P. E. Africa, 1 4 Baxter, Hoare & Co.
France, 16 Clarke & Smith
" 2 1 Baxter, Hoare & Co.
" 7 Major & Field
" 7 L. & I. D. Jt. Co.
E. Indies, 1 8 W. H. Smith & Sons
" 2 3 Prop. Hay's Wf.

Caustic Potash—
Germany, 113 dms. J. M. Steel & Co.

Camphor—
Belgium, 2 cs. J. Cockerill Line
Germany, 50 L. & I. D. Jt. Co.
" 2 Prop. Hay's Wf.

Castor Oil—
France, 7 cks. J. Eyres

Carbonic Acid—
Germany, 27 cs. J. C. Mount & Co.

Carbonic Acid Gas—
Holland, £454 W. H. Muller & Co.

Chalk (French)—
Italy, £206 Harrison & Co.
France, 8 Hernu, Peron & Co.

Cinchona Bark—
Holland, 199 bls. Robinson, Roberts & Co.

Chemicals *(otherwise undescribed)*
Holland, £273 W. H. Muller & Co.
" 140 W. Smith
" 20 Luke & Bailey
" 10 Phillipps & Graves
" 14 Van Dam & Co.
" 8 Hernu, Peron & Co.
Belgium, 45 J. Cockerill Line
" 11 Wilkins, Campbell & Co.
" 20 J. M. Steel & Co.
" 8 Leach & Co.
" 12 D. C. Thomas & Son
Germany, 75 L. & I. D. Jt. Co.
" 12 E. J. Brasch
" 13 London & Rhine S. Office
" 800 R. W. Greeff & Co.
" 464 A. & M. Zimmermann
" 660 T. H. Lee
" 21 Argo S.S. Co.
" 17 Typke & King
" 36 Mory & Co.
France, 11 Davis, Turner & Co.
U.S.A.,

Chromium—
Holland, 1 t. J. Barber & Co.

Citric Acid—
France, 40kgs. 4 cks. B. & F. Wf. Co.

Coal Products—
Aniline
Belgium, 8 pks. J. Cockerill
" 4 cs. Line
Germany, 6 cks. 7 L. & I. D. Jt. Co.

Pitch
N. Russia, 50 brls. Taylor Bros.
" 50 White & Foxwell
Germany, 5 Drolenvaux & Bremner

Tar
N. Russia, 50 brls. Linck, Moeller & Co.
" 42 Hermann & Co.

Cobalt Sulphate—
Germany, £22 Argo S.S. Co.

Copper Ashes—
N. Russia, 1 t. O. Gerdes, Hansen & Co.

Copper Cyanide—
Germany, £30 L. & I. D. Jt. Co.

Copper Ore—
Straits, 55 t. H. Grey, Jnr.

Cottonseed Oil—
Holland, 30 brls. W. H. Muller & Co.

Cream of Tartar—
France, 4 cks. B. & F. Wf. Co.
" 9 T. M. Fairclough & Sons
" 12 55 pks. B. & F. Wf. Co.
Holland, 4 Kirkpatrick, Barr & Co.
" 72 70 kgs. A. & M. Zimmermann

Diamidophenyl—
Belgium, £500 J. Cockerill Line

Disinfectants—
France, £30 Mory & Co.

Dyestuffs—
Annatto
Denmark, 2 cks. Pickford's, Ld.
" 1 pk. A. C. Lloyd

Chestnut Extract
France, 50 cks. Humphreys, Percival & Co.
" 29 G. S. N. Co.

Cutch
Straits, 159 cs. H. Grey, Jnr

Divi Divi
E. Indies, 190 bgs. Culverwell, Brooks & Co.

Extracts *(otherwise undescribed)*
Germany, 24 cs. Leach & Co.

Myrabolans
E. Indies, 2,000 pkts. S. Barrow & Bro.
" 2,300 E. J. Winser & Co
" 3,710 Union Ltge. Co.
" 2,857 Mercantile Ltge. Co.

Tannin Extract
France, 47 cs. Leach & Co.
" 18 brls. Beresford & Co.

Saffron
Spain, 1 cs. Nich.'s Wys
" 1 bx. H. Rubeck

Tanners' Bark
Cape, 14 t. W. Balchin
Natal, 5 T. J. & T. Powell
" 35 Sollas & Sons
" 4 J. Graves
" 466 J. T. Rennie, Sons & Co.

Turmeric
E. Indies, 470 pks. Clarke & Smith
" 50 bgs. G. H. Green
" 150 Cayzer, Irvine & Co.

Vegetable Colour
Belgium, 8 cks. P. Heydemann

Explosives—
Gelignite
Germany, £1,000 Alliance Ex. Co.

Farina—
Holland, 10 t. E. & T. Pink
" 5 Van Dam & Co.
" 18 14 c. J. Barber & Co.

Gas Oil—
U.S.A., 996,329 British Petrol Co.
" 2,048,428 Anglo Amer. Oil Co.

Gelatine—
France, £207 Mory & Co.
Germany, 282 L. & I. D. Jt. Co.
Holland, 12 W. H. Muller & Co.
Belgium, 20 Atkins & Nisbet
" 61 J. Cockerill Line

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glue—
A. Hung., £600 Philip Leiner & Sons
France, 528 Bennett S.S. Co.
Holland, 104 W. H. Muller & Co.
" 52 Hernu, Peron & Co.
" 8 Van Dam & Co.
" 16 J. Cockerill Line
Belgium, 21 J. Harrison & Co.
Germany, 474 T. M. Duche & Son
" 127 Prop. Hay's Wf.
" 62 Leach & Co.
Belgium, 50 L. & I. D. Jt. Co.
France, 6 T. M. Duche & Sons
" Belgium, 322 "

Glucose—
U.S.A., 18 t. 12 c.

Glue Stock—
N. Russia, 37 t. Elkan & Co.
Germany, 2 T. H. Lee
Belgium, 10 D. C. Thomas & Son

Gold Ore—
W. Aust., 9 t. Maritime L. Co
Natal, 10 "
" 20 Maritime Ligeaes
" 1 M. H. & J. E. Matthews

Guttapercha—
Straits, 76 t. 3 c. H. W. Jewesbury & Co.

Glycerine—
Germany, £12 L. & I. D. Jt. Co.
Holland, 498 J. Barber & Co.
Germany, 14 A. & M Zimmermann

Iron Perchloride—
Holland, £40 J Barber & Co.

Kainit—
Germany, 250 t. F. W. Berk & Co.

Lead Nitrate—
Italy, £66 Midd. Wf.
" 26 H. Johnson, Sons & Co.

Lead Ore—
Natal, 107 t. J. T. Rennie, Sons & Co.

Linseed Oil—
Germany, 120 brls. London Oil Storage Co.
Belgium, 82 J. W. Cook & Co.
Denmark, 150 Knowles, Spence & Son

Lithopone—
Holland, 14 cks. F. T. H. Nye
" 116 W. H. Muller & Co.
Belgium, 60 J. L. Lyon & Co.
Holland, 50 Spies, Bros. & Co.

Magnesia—
Germany, £28 Craven & Co.
" 60 L. & I. D. Jt. Co.
U.S.A., 40 bgs. R. W. Greeff & Co.

Mineral White—
France, £95 Blackwell, Sons & Co.

Molasses—
Cuba, 1,500 t. Ohlenschlager Bros.
U.S.A., 105 t 6 c.

Olive Oil—
France, 20 t. Vokins & Co.
" 35 gals. Mory & Co.
" 55 Hernu, Peron & Co.
" 63 F. Bochm
" 8 t. "
Italy, 1 Stebbing & Co.
" 126 gals. "
" 189 Nicholson's Wys.
" 1 t. "
" 30 Crosse & Blackwell
Portugal, 3 W. H. Chandler & Co.
" 20 gals. A. C. Lloyd
Italy, 189 Kearsley & Tonge
" 94 Gill & Duffus
France, 7 t. Pickfords, Ld.
Italy, 3 J. W. Dooly
" 10 gals. Millar & Fornay
Portugal, 3 t. 204 gals. B. & F. Wf. Co.
France, 10 T. Trapp & Sons
" 70 L. & I. D. Jt. Co.
" 4 "
" 200 Pickford, Ld.
" 70 Civil Service
Italy, 2 Co-op Soc.
" 1,126

Paraffin Scale—
U.S.A., 12 t. 8 c. H. Hill & Sons
" 151 6 Anglo-Am. Oil Co.

Paraffin Wax—
Germany, 6 c. T. H. Lee

Plumbago—
Ceylon, 89 brls. Thredder, Sons & Co.
Italy, 200 bgs. Claydon & Co.
Ceylon, 33 brls. G. H. Green

Plumbago—
Ceylon, 156 brls. G. R. Haller
France, 10 cks. Johnson, Sons & Co.
Germany, 2,301 B. Galloway
Japan, 134 cs. William & Co.
France, 10 bgs. J. Thredder, Sons & Co.

Phosphate of Lime—
Aruba, 775 t. Hunter, Lomas Fraser
France, 311 West & Co.
" 244 Hunter, Lorner & Co.
U.S.A., 3,300 Ward & Co.
Tunis, 2,550 Hunter, Lorner & Co.

Potash—
Germany, £185 Taylor Bros.

Potassium Bicarbonate—
Holland, £108 Luke & Bailey

Potassium Carbonate—
France, 5 cks J. Barber & Co.
Germany, 9 "

Potassium Chlorate—
Sweden, 4 cks. G. Boor & Co.
" 24 cs. 20 kgs. "
France, 25 J. Harrison

Potassium Cyanide—
Germany, £522 Pickfords, Ld.

Potassium Nitrate—
Germany, £105 W. H. J. Alexander

Potassium Prussiate—
Belgium, 3 cks. J. Owen

Potassium Silicate—
Holland, £47 Spies, Bros. & Co.

Potassium Sulphate—
Germany, 20 kgs. R. W. Greeff & Co.
France, 4 cs. "

Quinine—
Holland, 10,000 ozs. W. H. Muller & Co.

Red Lead—
Holland, 8 cks. W. H. Muller & Co.
Germany, 83 J. D. Budd

Ripolin—
Holland, 93 pks. Phillips & Graves

Rosin—
U.S.A., 1,300 brls. Goodlake & Nutter
" 250 Prod. Broker Co.
Sweden, 207 Taylor Bros.
France, 57 W. Lindheemer
" 54 Watt & Son
U.S.A., 4,600 Rosin & Turp. Impt. Co.
France, 15 Harrison & Co.

Saltpetre—
Germany, 94 t. 7 c. P. Hecker & Co.
E. Indies, 10 2 Lucas & Spencer's Wf. Ld.

Silver Nitrate—
Germany, £380 T. H. Lee

Soap—
France, £72 Mory & Co.
" 53 Gt. Central Rly.
" 15 B. & F. Wf. Co.
" 52 Ferguson & Co.
" 19 Lane & Co.
U.S.A., 22 L. & I. D. Jt. Co.
" 201 Armour & Co.
" 454 Lunham & Moore
Holland, 17 W. H. Muller & Co.
U.S.A., 38 Sheldon & Co.
" 81 Field & Co.
" 250 Butler & Crispe
Italy, 96 Gross & Co.
Belgium, 23 J. Cockerill Line

Soap Powder—
U.S.A., £77 L. & I. D. Jt. Co.
Germany, 725 London & Rhine S. Office
U.S.A., 25 Pickfords, Ld.
U.S.A., 66 Mercantile Ltge. Co.
France, 11 c. Rosenberg, Lowe & Co.
Belgium, £16 W. H. Muller & Co.
Holland, 16 "

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Soap Stock—
Italy, £82 Claydon & Co.
U.S.A., 232 Prop. Hay's Wf.

Soda (*otherwise undescribed*)—
Germany, 5 cks. 6 c. T. H. Lee
,, 6 7 A. & M. Zimmermann
France, 8 J. A. Powell & Co.
Holland, 40 W. H. Muller & Co.
U.S.A., 2 t. 7 Lunham & Moore
Belgium, 1 R. W. Greeff & Co.
,, 5 10 Petri Bros.
Holland, 1 S. White
,, 40 A. & M. Zimmermann
Sweden, 30 Finkler & Co.

Sodium Nitrate—
Chile, 2,700 t. W. Montgomery & Co.

Starch—
Germany, 10 c. J. Barber & Co.
Holland, 11 t. 18 W.H.Muller & Co.
,, 4 Burgoyne & Co.
,, 10 Hernu, Peron & Co.
,, 12 17 Little & Johnston
,, 12 10 J. Barber & Co.
France, 25 C. E. Wood
,, 5 A. C. Hitchcock
,, 12 15 E. & T. Pink
Belgium, 3 15 ,,
,, 1 J. Harrison
,, 2 16 C. E. Wood
,, 5 G. W. Sheldon & Co.
,, 12 Leach & Co.
Aust.-Hung., 15 G. W. Sheldon & Co.

Stearine—
Belgium, 63 bgs. G. Jennings

Sulphur—
Italy, 4 t. 6 c. Fuerst Bros.
,, 5 J. W. Dooley
,, 500 T. Swan

Sulphur Chloride—
Germany, £60 Typke & King

Tallow—
N.S.W., 91 cks. Thornett & Fehr
,, 45 Concordia Wf.
N. Zealand, 134 J. Owen
U.S.A., 85 W. H. Alexander
Belgium, 47 Lucas & Spencer's Wf.
Victoria, 9 Goad, Rigg & Co.
Holland, T. H. Lee

Tantalite Ore—
Straits, 1 t. Dalgety & Co

Tartaric Acid—
Holland, 6 cks. Kirkpatrick, Barr & Co.
France, 4 6 pks. B. & F. Wf. Co.
Italy, 8 ,,
Holland, 12 F. C. Devon & Co.
,, 4 Kirkpatrick, Barr & Paton

Thermit—
Holland, £76 J. Barber & Co.

Turpentine—
N. Russia, 289 brls. London Oil Storage Co.
,, 53 B. A. List
U.S.A., 2,000 Nichols, Knight
,, 2,000 Fairclough Dodd & Co.

Ultramarine—
Belgium, 5 cs. O. Lechla
Holland, 3 cks. W. H. Muller & Co.
Germany, 4 10 Argo S.S. Co.
Holland, 8 W. Harrison & Co.

Vanilla—
Germany, 1 cs. Prop. Hay's Wf.
Holland, 2 W. H. Muller & Co.

Vanillin—
Germany, £308 L. & I. D. Jt. Co.
France, 250 Mory & Co.

Verdigris—
France, 2 cks. B. & F. Wf. Co.

Wax—
Japan, 100 cs. Kiver & Co.
Germany, 65 bgs. Prop. Hay's Wf.
,, 5 100 London & Rhine S. Office
,, 201 T. H. Lee
Holland, 34 W. H. Muller & Co.
,, 34 21 T. H. Lee
,, 10 bls. ,,
E. Indies, 10 ,, Major & Field
,, 301 Cook & Co.
Italy, 8 bgs. P. J. Johnson
France, 7 L. & I. D. Jt. Co.
,, 5 cks. Figgis & Co.
Spain, 11 bls. Lewis & Peat
Egypt, 80 bgs. Gillespie, Bros. & Co.
,, 38 pks. Major & Field

White Lead—
Holland, 71 cks. Perkin & Homer
Germany, 85 Randall Bros.
Belgium, 90 T. W. Farmiloe
,, 18 J. L. Lyon & Co.
,, 40 G. Farmiloe

Wolfram Ore—
Straits, 4 t. Major & Field

Zinc Oxide—
Holland, 200 cks. Litchfield & Soundy
,, 25 F. T. H. Nye
Germany, 50 Burrel & Co.

Zinc White—
Germany, 25 cks. Perkins & Homer
Holland, 10 W. H. Muller & Co.
Germany, 10 ,,
Holland, 50 Felton & Crepin

LIVERPOOL.

Week ending August 1.

Acetic Acid—
Antwerp, 32 crbys.

Antimony Ore—
Mollendo, 157 sks. Oetling, Gebruder
A'fagasta, 521 Barber & Co.
,, 187
,, 2,065 Aramayo & Co.
,, 712 bgs. Huth & Co.
,, 428 Widenmann Broicher

Barium Sulphate—
Antwerp, 190 bgs.

Barytes—
Rotterdam, { 32 cks. / 295 bgs.

Beeswax—
Boston, 25 cs.
Marseilles, 5
Burutu, 1 Niger Co.
Hamburg, 23 pks.
Valparaiso, 19 bls. Matthiessen & Sons

Borate of Lime—
Mollendo, 1,090 sks. Borax Con-
A'fagasta, 7,492 bgs. solidated, Ld.

Borax—
Dunkirk, 170 cks.

Camphor—
Havre, 2 brls. Cunard S.S. Co.

Caoutchouc—
Valparaiso, 6 cs.
Havre, 61 pks. Cunard S.S. Co.

Castor Oil—
Calcutta, 875 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 5 cks.

Coal Products—
Tar
Gothenburg, 26 brls.

Colours—
Antwerp, 2 cs.
Hamburg, 1 ck.

Copper Ore—
Valparaiso, 1,036 bgs. Vorwerk & Co.
,, 460 sks.
,, 102 Buenusa & Melian Co.
Lisbon, 100 t.
A'fagasta, 400 Woodgate, Sons & Co.
Mollendo, 183 sks. Goyeneche & Co.

Cream of Tartar—
Marseilles, 6 brls.
Bordeaux, 5 cks.

Dried Blood—
Alexandria, 148 bgs.

Dyestuffs—
Extracts (*otherwise undescribed*)
Havre, 15cks. 53 cs. Cunard S.S. Co.
Oak Extract
Fiume, 208 brls.
Tannin Extract
Bordeaux, 497 cks.

Farina—
Fiume, { 415 cs. / 100 bgs.
Stettin, 25

Ferro Chrome—
Havre, 10 cs. Cunard S.S. Co.

Glue—
Boston, 10 brls.
Philadelphia, 12 Anglo-Amer. Oil Co.
Antwerp, 20 bls.
Rouen, 11 pks. Co-op. W'sale Soc.
St. Nazaire, 2 cks. 27 crts.

Glycerine—
Calcutta, 5 dms.

Iodine—
Valparaiso, 68 kgs. Gibbs & Sons

Lactic Acid—
Rotterdam, 19 cks.
Boston, 14 brls. Amer. Exp. Co.

Magnesite—
Fiume, 299 bgs.
Rotterdam, 200
Limni, 1,370 t. Tennants & Co.
,, 200 3,328

Magnesite (Calcined)—
Limni, 424 bgs.

Manganese—
Tjilatjap, 400 t.
Batoum, 300 Blackwell, Sons & Co.
,, 1,455

Manganese Ore—
Calcutta, 275 t.

Mineral White—
Trieste, 340 bgs.
Malaga, 24 brls.

Olive Oil—
Marseilles, 39 cs.

Paraffin Scale—
Rangoon, 320 bgs.

Phosphate—
Antwerp, 635 t. Vickers & Sons

Phosphate Rock—
Tampa, 2,750 t.

Phosphorus—
Montreal, 150 cs.

Potash—
Hamburg, 84 cks. 40 dms.
Rouen, 42 Co-op. W'sale Soc., Ld.
Stettin, 10

Potash Lye—
Hamburg, 20 dms.

Potassium Carbonate—
Hamburg, 33 cks.

Potassium Chlorate—
New York, 20 bxs. Fraser & Chalmers

Potassium Permanganate—
Hamburg, 10 pks.

Rosin—
Bordeaux, 438 cks.
Baltimore, 300 brls.
Savannah, 1,050
Pensacola, 11,250

Rubber—
Bordeaux, { 23 cks. / 25 bgs.
New York, 99
Boston, 98 cs.
New York, 24 12 pks.
Valparaiso, 5 bls. Hainsworth Watson
Ceara, 283 47
Burutu, 411 pks. Niger Co.
Lagos, 7 Paterson, Zochonis & Co.
Accra, 2 F. & A. Swanzy
Cape Coast, 3
Sekondi, 3 Miller's, Ld.
Mollendo, 22 Barber & Co.
Lisbon, 188 bgs.
Mollendo, 645 9 bls. Kleinwort, Sons & Co.
,, 13 Widenmann, Broicher
,, 196 Bieber & Co.
A'fagasta, 155 Brandt, Sons & Co.
Riga, 17
Maranham, 15
Parahyba, 479
Hamburg, 9

Salammoniac—
Riga, 25 brls.
Montreal, 11

Saltpetre—
Hamburg, 135 bgs.

Salt (Waste)—
Hamburg, 500 bgs.

Silver Ore—
Huacho, 32 bgs. Duncan, Fox & Co.
A'fagasta, 5 4 sks. Widenmann, Broicher

Soap—
Constantinople, 1 cs.
Boston, 8 J. Ismay & Sons
New York, 10 pks.
Marseilles, 95
Boston, 20 May, Roberts & Co.

Soap Powder—
New York, 300 bxs. B. T. Babbit

Soapstock—
Newport News, 890 brls.

Sodium Nitrate—
Pisagua, 32,053 bgs.

Starch—
Boston, 2 brls.
Amsterdam, 2 cs.
Antwerp, 320
Ghent, 60 Fletcher & Co.
Dunkirk, 100
Rotterdam, 12

Stearine—
Antwerp, 178 bgs.
Rotterdam, 6

Tallow—
Boston, { 5 trcs. / 200 brls.
New York, 305 Swift & Co.
,, 328
P'delphia, 290
Las Palmas, 147 cks.
La Plata, 222

Tin Ore—
A'fagasta, 83 sks.
,, 205 Huth & Co.
,, 605 Schroeder & Co.
,, 470 Deutsche Bank
,, 5,586 Titley & Co.
,, 12,410 London City & Midland Bank
,, 1,206 Aramayo & Co.
,, 627 Bk. Anglo Sub Amer.
,, 5,200 Gibbs & Son
,, 112 Penpole Tin Smelting Co.
,, 35 A. Steffens

Tin Oxide—
Rouen, 5 cks. Co-op. W'sale Soc., Ld.

Turpentine—
Savannah, 2,600 brls.

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Wax—
Baltimore, 125 brls. Meade-King Robinson
" 125
P'delphia, 176
New York, 105
Parahyba, 72 bgs.
Ceara, 69

White Lead—
Rotterdam, 277 cks.

Wolfram Ore—
A'fagasta, 43 bgs. Widenmann, Broicher

Zinc Oxide—
New York, 400 brls.
Antwerp, 40
Rotterdam, 80 cks.

Zinc White—
Antwerp, 25 cks.

MANCHESTER.

Week ending August 3.

Albumen—
Hamburg, 5 cs.
Rouen, 5

Antimony Salt—
Hamburg, 8 cks.

Barium Chloride—
Rotterdam, 4 cks.

Barium Sulphate—
Antwerp, 50 bgs. Fletcher & Co.

Calcium Carbide—
Christiania, 50 dms.

Castor Oil—
Antwerp, 28 brls.

Chemicals (*otherwise undescribed*)
Ghent, 200 bgs. Fletcher & Co.
Hamburg, 30 cks.
Rouen, 36
Rotterdam { 5 cs. / 13 / 670 bls. / 10 kgs.

Coal Products—
Alizarine
Rotterdam, 11 brls

Aniline Colours
Rotterdam, { 135 brls. / 194 cks. / 31 cs.

Aniline Salt
Rotterdam, 19 cs

Colours—
Rouen, 49 cks
Rotterdam, 6
Antwerp, 5 Fletcher & Co
Hamburg, 2 14 cs

Cream of Tartar—
Rotterdam, { 20 kgs. / 22 cks. 2 cs.

Dextrine—
Stettin, 50 bgs. Browne, Geveke & Co.
" 900

Dyestuffs—
Extract (*otherwise undes.*)
Ghent, 50 cks. Fletcher & Co.

Indigo Paste
Rotterdam, 8 cks.

Tannin
Hamburg, 16 cks. 3 cs.

Farina—
Stettin, 490 bgs. Browne, Geveke & Co.
" 1,000
Rouen, 100
Rotterdam, 675

Glue—
Antwerp, { 5 cks. / 90 bgs.
Rouen, 6 cs.
Antwerp, 40 bls. Fletcher & Co.
R'terdam { 100 bgs. / 10 cs.

Glycerine—
Hamburg, 4 brls.

Graphite—
Hamburg, 2 brls.

Lactic Acid—
Rotterdam, 10 brls.

Litharge—
Rotterdam, 14 cks.

Lithopone—
Rotterdam, 8 cks.

Magnesite—
Rotterdam, 13 bls.

Magnesium Chlorate—
Rotterdam, 2 cks.

Oxalic Acid—
Hamburg, 6 cks.

Potash—
Hamburg, 37 cks. 70 dms.

Potassium Carbonate—
Treport, 2 cks.

Potassium Permanganate—
Hamburg, 22 cks.

Potassium Prussiate—
Antwerp, 23 cks.

Rubber—
Boston, 39 bls.
Riga, 21 pks.

Salt (Waste)—
Hamburg, 300 t.

Soda—
Antwerp, 14 brls. Fletcher & Co.

Starch—
Dunkirk, 230 cs.
Antwerp, 460 Fletcher & Co.
" 514
Stettin, 50 bgs.
Hamburg, 120

Stearine—
Antwerp, 10 bgs.

Sulphuric Acid—
Rotterdam, 5 cylndrs.

Tallow—
Boston, 1 bx.

Tannic Acid—
Hamburg, 3 cks.

Turpentine—
Riga, 10 cks.

Ultramarine—
Rotterdam, 3 cks.3 cs.

Zinc Oxide—
Antwerp, 20 brls.

Zinc White—
Rotterdam, 5 cks.

HULL.

Week ending August 3.

Acid (*otherwise undescribed*)**—**
Genoa, 8 cks.

Alumina Sulphate—
Ghent, 50 bgs. Wilsons & N.E.R.S. Co.

Antimony—
Dunkirk, 4 cks.

Asbestos—
Riga, 6 cs. 7 pcs. Wilson, Sons & Co., Ld.

Barytes—
Antwerp, 155 cks.
293 bgs.
Rotterdam, 28 450 Hull & N. S.S. Co.

Bleaching Powder—
Antwerp, 140 t.

Chemicals (*otherwise undescribed*)
Rotterdam, 4 cks. H. & B. Rly. S.S. Line
" 15 4 cs. Hull & N. S.S. Co.
Bremen, 5 4 Veltmann & Co.

Coal Products—
Alizarine
Rotterdam, 21 cks. H. & B. Rly. S.S. Line

Aniline
Rotterdam, 7 cks. Hull & N. 285 pks. S.S. Co.

Aniline Dye
Rotterdam { 79 cks. / 2 cs. H. & B. Rly. / 164 pks. S.S. Line

Tar
Libau, 45 brls.

Colours—
Rotterdam, 34 pks. Hull & N. S.S. Co.
Rotterdam, 75 "
Antwerp, 5 cks. "
Hamburg, 4 3 cs. G. Malcolm & Son

Cottonseed Oil—
Alexandria, 3,192 t.

Dextrine—
Hamburg, 20 bgs.
Stettin, 100 Wilson, Sons & Co., Ld.

Dyestuffs—
Myrabolans
Rotterdam, 377 bgs.
Sumac
Palermo, 50 bgs. Wilson, Sons & Co., Ld.
" 650

Farina—
Stettin, 448 bgs. Wilson, Sons & Co., Ld.

Ferro Silicon—
Christiania, — Wilson, Sons & Co., Ld.
Antwerp, 38 cks. Wilsons & N.E.R.S. Co.

Glucose—
Rotterdam, 40 bgs. Hull & N. S.S. Co.

Glue—
Rouen, 92 pks.
S. Petersburg, 200 bgs. Wilson, Sons & Co., Ld.
Antwerp, 40 bls. Wilsons & N.E.R. S. Co.

Lithopone—
Rotterdam, 50 cks. H. & B. Ry. S.S. Co.

Olive Oil—
Leghorn, 15 bxs. Wilson, Sons & Co., Ld.
" 24 cs.

Phosphate—
Dunkirk, 280 t.

Molasses—
Alexandria, 100 brls.

Plumbago—
Hamburg, 26 brls. Wilsons & N.E.R.S. Co.

Potash—
Hamburg, 25 dms.
Dunkirk, 28 Wilsons & N.E.R.S. Co.
Novorossisk, 96 brls. Wilson, Sons & Co., Ld.
" 191

Rosin—
Charente, 25 cks. W. Moran & Co.
Rotterdam, 6 H. & B. Rly. S.S. Line

Saltpetre—
Rotterdam, 2,400 bgs.

Soap—
Genoa, 10 cs.
" 16 Wilson, Sons & Co., Ld.
Naples, 8 "

Soda Crystals—
Rotterdam, 50 bgs.

Starch—
Antwerp, 80 cs.
Bremen, 799 Veltmann & Co.
Rotterdam, 21 Hull & N. S.S. Co.
" 11 Wilsons & N. E. R. S. Co.
" 55

Sulphur—
Catania, 853 pks.

Tallow—
Dunkirk, 100 cks.
Boston, 120 t. Wilson, Sons & Co., Ld.

White Lead—
Antwerp, 9 cks. Wilsons & N.E.R.S. Co.
Rotterdam, 81 Hull & N. S.S. Co.

Zinc Chloride—
Amsterdam, 5 btls. Hull & N. S.S. Co.

Zinc Oxide—
New York, 200 brls. Wilson, Sons & Co., Ld.

Zinc White—
Genoa, 10 brls. Wilson, Sons & Co., Ld.

GLASGOW.

Week ending August 8.

Acetic Acid—
Christiania, 4 brls.

Acetone—
Rotterdam, 1 dm.

Ammonium Anhydrous—
Hamburg, 5 cylds.

Ammonium Phosphate—
Antwerp, 14 cks.

Barytes—
Rotterdam, 12 cks.
Hamburg, 100 bgs.

Barium Sulphate—
Antwerp, { 57 cks. / 390 bgs.

Carbon Black—
New York, 50 brls.

Carstor Oil—
Antwerp, 40 brls.

Caoutchouc—
Hamburg, 2 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 6 cks.2 cs.

Coal Products—
Alizarine
Rotterdam, 11 cks. 46 pks.

Colours—
Rotterdam, 135 pks.

Cream of Tartar—
Oporto, 3 cks.

Dyestuffs—
Quebracho Extract
B. Ayres, 2,260 bgs.

Glucose—
New York, 480 brls.

Linseed Oil—
Amsterdam, 144 brls.

Lithopone—
Rotterdam, 60 cks.

Magnesite—
Christiania, 254 bgs.

Oxalic Acid—
St. Petersburg, 8 brls.

Paraffin Wax—
Amsterdam, 680 cks.

Phosphate—
Savannah, 3,165 t. W. H. Stead & Temple

Potash—
Hamburg, 47 cks. 20 dms.

Red Lead—
Rotterdam, 39 cks.

Rosin—
Savannah, 4,900

Rubber—
Hamburg, 25 bgs.

Salt—
Hamburg, 4 cs.

Soap—
New York, 175 brls.
Antwerp, 2 cs.

Soap Powder—
New York, 1,000 bxs.

Soda Crystals—
Antwerp, { 30 bgs. / 26 cks.

Starch—
New York, 1,290 bgs.
Antwerp, 220 cs.

Stearine—
Rotterdam, 26 bls.

Tartar—
Rotterdam, 2 cks.

Tartaric Acid—
Rotterdam, 4 cks.

Tin Oxide—
Hamburg, 2 cks.

Turpentine—
Savannah, 1,550 brls.

Ultramarine—
Rotterdam, { 2 cks. / 22 cs.

White Lead—
Rotterdam, 81 cks.

Zinc Oxide—
New York, 200 brls.
Rotterdam, 5 cks.
Antwerp, 8

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TYNE.

Week ending August 3.

Antimony—
Hamburg, 3,200 bars Tyne S.S.Co.

Barytes
Rotterdam, 250 bgs.

Calcium Carbide—
Trondhjem, 60 dms.

Coal Products—
Tar
Gothenburg, 50 cks.

Copper Oxide—
Hamburg, 16 dms. Tyne S.S.Co.

Phosphate of Lime—
Boulogne, 300 cs. Langdale's Chemical Manure Co.

Starch—
Antwerp, 176 cs. Tyne S.S. Co.

Stearine—
Antwerp, 6 bgs. Tyne S.S. Co.

Sulphide Ore—
Hamburg, 284 bgs. Tyne S.S. Co.

Tartar—
Rotterdam, 2 cks. Tyne S.S.Co.

White Lead—
Rotterdam, 18 cks. Tyne S.S.Co.

GOOLE.

Week ending August 3.

Barytes—
Antwerp, { 400 bgs. 53 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 1 cs.
Boulogne, 17 cks. 3
Hamburg, 5
Rotterdam, 10

Coal Products—
Creosote Salts
Rotterdam, 7 cks.

Colours—
Antwerp, 29 cks. 1 cs.
Hamburg, 3

Dyestuffs (*otherwise undescribed*)
Boulogne, 58 cks. 3 cs.
Rotterdam, 434 54
Hamburg, 48 3 190 pks.

Dyestuffs—
Extracts (*otherwise undescribed*)
Hamburg, 200 bls. 4 cs.
Fustic
Boulogne, 10 cks.
Logwood
St. Marc, 600 t.

Farina—
Delfziel, 950 bgs.
Amsterdam, 100
Hamburg, 100

Glue—
Antwerp, 45 bgs.

Glue—
Ghent, 12 bls.
Boulogne, 20

Oleine—
Antwerp, 6 brls.

Phosphate of Lime—
Antwerp, 160 t.

Plumbago—
Boulogne, 2 cks.
Hamburg, 35

Potash—
Boulogne, 58 dms.

Pyrites (Copper)—
Barreiro, 1,100 t.

Rosin—
Hamburg, 1 ck.

Salt—
Hamburg { 4 cks. 12 cs.

Saltpetre—
Antwerp, 135 bgs.

Salt (Waste)—
Hamburg, 590 t.

Soda—
Rotterdam, 11 cks.

Starch—
Ghent, 47 cs.
Antwerp, 10
Rotterdam, 20

Wolfram Ore—
Rotterdam, 17 cs.

GRIMSBY.

Week ending August 3.

Barytes—
Rotterdam, 190 bgs.

Caoutchouc—
Hamburg, 142 cs.
Antwerp, 6

Caustic Potash—
Hamburg, 16 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 11 cks. 2 cs.

Colours—
Hamburg, 2 cks. 27 pks.
Antwerp, 79
Rotterdam, 9 dms.

Dyestuffs (*otherwise undescribed*)
Hamburg, 4 cks.
Antwerp, 18

Ferro Chrome—
Dieppe, 127 cks.
Antwerp, 3

Glue—
Antwerp, 5 cks.

Glue Stock—
Hamburg, 330 bls.

Oxygen—
Hamburg, 1 ck.

Starch—
Rotterdam, 5 cs.
Antwerp, 50

Zinc Oxide—
Antwerp, 60 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 9

Acids (*otherwise undescribed*)—
Tientsin, 1 cs. £7

Alum—
Lyttelton, 10 t. £54

Ammonia—
Rangoon, 15 cs. £38
Delagoa Bay, 2 6
Calcutta, 9 cks. 15 50
Bombay, 11 18
Auckland, 26 76
Durban, 10 21
Alexandria, 4 6
Sydney, 172 417
Adelaide, 71 178
Melbourne, 182 445
Brisbane, 51 150
Fremantle, 10 29

Ammonia (Anhydrous)—
Malta, 10 cylds. £75
Bombay, 3 35
Auckland, 2 cs. 30
Durban, 68 720

Ammonium Carbonate—
Bombay, 3 cs. £9
E. London, 2 5
Antwerp, 13 cks. 38
Demerara, 6 16
Osaka 8 30

Ammonium Sulphate—
Demerara, 40 t. 7 c. £483
Hamburg, 55 660
Kobe, 1,050 1 12,517
Sourabaya, 50 590
Yokohama, 303 3,625

Antimony Regulus—
Hamburg, 10 t.
New York, 10
Rotterdam, 3
S.Petersburg, 10

Asbestos—
Brisbane, £81
Calcutta, 10

Barium Binoxide—
Newport News, 8 t. 5 c. £281
Paris, 38 6 1,302

Barium Carbonate—
Calcutta, 4 pks. £6

Bones—
Dunkirk, 31 t.

Borax—
Bombay, 1 t. £17
Vao, 1 22
Callao, 4 c. 9

Bromide Salt—
Fremantle, 4 t. £532

Calcium Carbide—
H. Kong, 5 c. £7

Camphor—
Antwerp, £125
Hamburg, 970
Havre, 179

Carbon Bisulphide—
Fremantle, 10 dms. £7

Caustic Potash—
Bombay, 1 t. £20

Caustic Soda—
Lisbon, 2 t. 13 c. £16
Delagoa Bay, 6 7
H. Kong, 16 14
Melbourne, 2 1 45

Charcoal (Animal)—
Kobe, 35 t. £367

Chemicals (*otherwise undescribed*)
Hamburg, 10 cs. £591
Alexandria, 1 10
Bombay, 2 kgs. 9
Melbourne, 83 200
Algoa Bay, 1 10
E. London, 2 pks. 7
Montreal, 1 ck. 2 51
Bremen, 20 75
Fremantle, 90 216
Wellington, 15 45
Durban, 20 38
Gothenburg, 12 7
Rotterdam, 10 1 35
Santander, 1 27
Napier, 20 16
Callao, 2 pks. 7
Calcutta, 2 1 38
Colon, 7 19
Halifax, 6 cks. 141
Amsterdam, 10 6

Chloride of Lime—
Durban, 20 dms. £7

Citric Acid—
Melbourne, 1 c. £11
Bombay, 15 72
Genoa, 3 t. 3 566
Rotterdam, 6 40
Napier, 1 11
Seville, 7 73
Perth, 1 11
Nelson, 1 12
Penang, 1 12

Coal Products (*otherwise undes.*)
New York, 1 ck. £17

Coal Products—
Alizarine
Madras, 90 cks. £317
Tuticorin, 63 406
Anthracene
Hamburg, 325 cks. £346
Benzol
Paris, 50 cks. £100
Carbolic Acid
Brisbane, 2 cs. £8
Adelaide, 1 ck. 1 7
Melbourne, 5 13
Amsterdam, 49 167
New York, 25 20 dms. 291
Philadelphia, 50 322
Creosote
H. Kong, 1 cs. £5
New York, 100 cks. 166
Naphthaline
St. Petersburg, 535 bgs. £151
Melbourne, 10 cs. 9
Pitch
Broome, 86 pks. £5
Rouen, 54 brls. 160
Singapore, 8 7
Hamburg, 57 80
Tar
Broome, a qty. £7
Townsville, 50 dms. 10
Bombay, 15 rnlts. 19
Shanghai, 3 cks. 6
Tar Oil
Rotterdam, 10 cks. £14

Copper Sulphate—
Rio Grande do Sul, 13 t. 10 c. £375
Bordeaux, 50 1,550
Antwerp, 10 313
Cologne, 5 148
Christchurch, 1 30
Mauritius, 1 2 33
Rotterdam, 10 1,315
Zanzibar 1 2 32
Mombasa, 1 2 31

Cottonseed Oil—
Dunkirk, 1 t. 5 c.
Genoa, 17
Gibraltar, 3 8
Marseilles, 52 14
Rotterdam, 27
Bordeaux, 8 11
R'khampton, 17 5

Cream of Tartar—
Fremantle, 10 cs. £42

Cyanide (*otherwise undescribed*) —
Melbourne, 3 t. £246

Disinfectant—
Durban, { 190 dms. 20 kgs. £112 30 cs.
Fremantle, 100 10 35
Karachi, 5 10
Antwerp, 25 cks. 72
Channel Is., 6 14
Albany, 1 1 6
Freemantle, 3 9
Belawan Deli, 50 40
Rangoon, 7 23
Shanghai, 6 47
Valparaiso, 20 63
Bombay, 1 6
Melbourne, 10 4 55
Dunedin, 2 tnks. 89
Wellington, 1 10 67
Auckland, 22 pks. 6 71
Napier, 6 18
Singapore, 3 10
Jamaica, 25 24
Bangkok, 150 20
Mauritius, 3 8
Brisbane, 10 170 87

Fertiliser—
New York, 1 t. £15
Channel Is., 20 6 c. 262
Genoa, 49 5 300

Glycerine—
St. John, 1 c. £6

Guano—
Demerara, 20 bgs. £171

Hydrochloric Acid—
Wellington, 2 c. £3

Linseed Oil—
Adelaide, 4 t.
Auckland, 3 15 c.
Brisbane, 53 8
Bundaberg, 1 8
C. Town, 5
H. Kong, 1 5
Limon, 6
Lisbon, 1 15
Lyttelton, 4 1
Malta, 3 5
Mauritius, 2 8
Montreal, 5 5
Mossel Bay, 9
Otago, 3 17
Rangoon, 2
Rockhampton, 2 6
St. Thomas, 14
Stockholm, 2 1
Townsville, 4 16
Valparaiso, 15 16
Vera Cruz, 10 3
Volo, 1 11
Wellington, 5 19

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Linseed Oil—

Azores,		3 c.	
Barbadoes,		2	
Bombay,	4 t.	12	
B. Ayres,		13	
Cairns,	1	12	
Cuba,	2		
Christchurch,		10	
Colombo,	1		
Napier,	1	6	
Piræus,	10		
Townsville,	3	14	

Manure—

Channel Is.,	2 t.		£5
Lunderneau,	75		525
Auckland,	25	9 c.	82
Durban,	125		427
Dunedin,	125		396
Riga,	300		750
Colombo,	10		40
Yokohama,	150	3	1,155
Kobe,	50	1	400
Timaru,	150		480
Landerneau,	110		770
Odense,	3	15	56

Nitric Acid—

Rangoon,		12 c.	£18
Auckland,		3	6

Phosphoric Acid—

Melbourne,	{	1 c.	£14
		1 cs.	60
Mauritius,	16 cks.		

Phosphorus—

Demerara,		3 cs.	£19

Potash—

Toronto,		1 c.	£6
Colombo,		1	6

Potassum Chlorate—

Malta,		6 c.	£12

Potassium Cyanide—

Madagascar,		2 c.	£8
Montreal,		1	6

Potassium Iodide—

Launceston,		1 cs.	£46
Sydney,		1 c.	12

Potassium Permanganate—

Madras,		8 c.	£15

Potassium Sulphate—

Calcutta,	29 t.		£291

Quinine—

Calcutta,	9,103 ozs.		
Catacolo,	1,165		
Dephalperico,	141		
Constantinople,	339		
Bombay,	850		
C. Town,	349		

Salammoniac—

M. Video,		1 c.	£5
Brisbane,		2	5

Salt—

Alexandria,	1 t.		
Beira,	1		
Durban,	1		
Bombay,	2		
Colombo,	1		
Sydney,	3		

Saltcake—

Rotterdam,		5 t.	£10

Saltpetre—

Adelaide,	1 t.	10 c.	£38
Durban,	1	2	29
Libau,	5		148
Lyttelton,	2		49
Oporto,	12	12	311

Sheep Dip—

Beira,	1 t.	10 c.	£6
Napier,	75	20	152
Timaru,	{ 11	5	26 dms.
		5 cs.	350

Silver Nitrate—

Bombay,		1 cs.	£28

Soap—

Alexandria,	2 t.	12 c.	
Brussels,		2	
Busreh,		1	
Calcutta,		9	
Fremantle,		6	
H. Kong,		8	
Knysna,	1	2	
Madras,		1	
Mauritius,		13	
Montreal,		15	
Napier,	1	10	
Odessa,		1	
Osaka,		6	
Otago,		1	
Perth,		3	
St. John, N.B.,		5	
San Sebastian,		2	

Soap—

Beira,	4 t.		
Benguella,	2		
Bombay,	5	5 c.	
Boulogne,		2	
Bremen,		6	
Brisbane,		3	
Bushire,		3	
C. Town,		5	
Casablanca,		11	
Colombo,		5	
Constanti'ple,	1	2	
Durban,	1	15	
Hamburg,	1	14	
Karachi,	1	3	
Kobe,	1	10	
Lisbon,	1	2	
Melbourne,	6	1	
Mombasa,		4	
Mossel Bay,		9	
New Plymouth,		5	
Paris,	1	4	
P. Elizabeth,		8	
P. Sudan,	6	17	
Punta Arenas,		3	
Rangoon,		18	
Rotterdam,	1	9	
Santiago,		13	
Shanghai,		4	
Sydney,		2	
Wellington,	3	3	

Soda Ash—

Mombasa,	1 t.	19 c.	£15

Sodium Bicarbonate—

Narrobi,		13 c.	£5

Sodium Cyanide—

Auckland,	13 t.	7 c.	£1,092

Sodium Nitrate—

Adelaide,	50 t.	11 c.	£568

Sodium Tartrate—

St. John, N.B.,		5 c.	£16

Starch—

Melbourne,	1 t.		
Channel Is.,		10 c.	
Christiania,	2	18	
Colombo,	1		
Durban,	6	2	
Montreal,	3	10	
Oporto,	1	3	
Otago,	2		
P. Elizabeth,	1	2	
St. John N.B.,	1	10	
C. Town,	1		

Strontium Nitrate—

Malta,		3 kgs.	£5

Sulphur —

Perth,		2 t.	£19
Melbourne,		8 cks.	65

Sulphuric Acid—

Bussorah,		10 c.	£5
Channel Is.,		18	10
Fremantle,		6	5
Wellington,		3	4
Saukint,	5	19	29

Sulphurous Acid—

Oporto,		6 c.	£16

Superphosphates—

Calcutta,	55 t.		£173
Wellington,	50		159
Oporto,	350	1 c.	900
Durban,	56	10	190

Tallow—

Brussels,	37 t.	8 c.	
B. Ayres,	2		
Hamburg,	10	18	
Konigsberg,	10	1	
Rotterdam,	17	2	
Colombo,		14	
Danzig,	54	4	
Harlingen,	11	7	

Tartaric Acid—

Seville,		11 c.	£63

White Lead—

Brisbane,			£104
Calcutta,			304
H. Kong,			63
Melbourne,			249
New York,			132
Ostend,			26
Perth,			40
Sydney,			574
Wellington,			262
Auckland,			183

Alum—

Malaga,	3 t	2 c.	£19
Lisbon,	1		7
Monte Video,	20	4	100

Alum (Burnt)—

Havana,		2 c.	£4

Alumino Ferric—

Calcutta,	25 t.		£71

Ammonia—

Demerara,		3 cs.	£3
Gd Canary,		7 c.	16
Rio de Jan.,		19	15
Sekondi,		20 cs.	12

Ammonium Carbonate—

Stettin,	1 t.		£34
Rouen,	3	13 c.	115
Genoa,	4	8	110
Alexandria,		10	16
Nantes,		9	15
Naples,		12	20
Gothenburg,	3		101
Montreal,	4	5	149

Ammonium Muriate—

Philadelphia,	12 t.	14 c.	£305
Baltimore,	14	16	355
Yokohama,	3	12	86
H. Kong,	1	1	14
Oporto,	4	8	57
Brantford,	4	17	33
Bombay,	2	2	28
Sydney,		12	14
Hamburg,	95	13	2,213
Gijon,	1		24
Stockholm,	2	2	50
Gothenburg,		19	23
N. Orleans,	14	2	325
Trieste,	4	9	107
Genoa,		10	12
Mauritius,	5	4	111

Ammonium Sulphate—

Baltimore,	49 t.	15 c.	£600
Philadelphia,	40	12	500
Natal,	20		250
Vera Cruz,	35		400
Santander,	19	11	245
Valencia,	92		1,104
Yokohama,	40		490
Tarragona,	25		300
Gd. Canary,	22		264
Las Palmas,	65		779
Antigua,	24		288
Monte Video,	20	14	—
Colombo,	19		228
N. Orleans,	100		1,192
New York,	218		2,600
Teneriffe,	39	5	445
Demerara,	13	14	192

Asbestos—

H. Kong,		3 cs.	
Boston,		3 tres.	
Callao,		6	
Constantinople,		4	60 bgs.
Melbourne,	16 pks.		

Basic Slag—

Seville,	100 t.		£150
Cochin,	25		69

Bleaching Powder—

Bombay,		15 cs.	9 dms.
Calcutta,		431	
Delagoa Bay,		20	
Madras,		1	
Maranham,	10 cks.		
Montreal,	60	40 brls.	
N. Orleans,	26	115	110 bxs.
Santos,		14	
Seville,		45	
Sydney,		134 dms.	

Bones—

Havre,		5 t. 6 c.	£60

Borate of Lime—

Hamburg,	49 t.	14 c.	£400

Borax—

Ancona,		10 c.	£8
Santiago,		7	5
Matanzas,	1 t.	19	30
Cienfuegos,	2		31
Mollendo,		2	4

Calcium Acetate—

Calcutta,		1 c.	£8

Calcium Chloride—

Lagos,	1 t.		£3
E. London,	13	6 c.	30
Algoa Bay,	5	2	12
Genoa,	4	19	15
Adelaide,	7	6	14
Hamburg,	1	12	5
Rio de Jan.,	4	3	13

Carbolic Acid—

Amsterdam,		10 c.	£35
New York,	1 t.	2	48
Accra,		12 cs.	14

Caustic Potash—

E. London,	1 t.		£27

Caustic Soda—

Adelaide,		29 dms.	
Barranquilla,		20	
Calibarien,		30	
Christchurch,	44 cs.		
Corral,	45		
Corunna,	9 brls.	3	
Delagoa Bay,	16	48	
Hamburg,		15	
Montreal,		80	
Mossel Bay,	128		
New Orleans,	{ 5	25	
	{	52 bxs.	
Rouen,		50	
Acapulco,		125	
Alexandria,		15	
Bari,		15	
Bombay,		40	
B. Ayres,		102	
Cadiz,		12	
Callao,		690	
Campeche,	10 cks.	20	
Catania,		194	
Cavalla,		17	
Gen,		50	
Galatz,		88	
Genoa,		230	
Havanna,		27	
Hiogo,		388	
Karachi,		350	
Lagos,		10	
Pas Palmas,		40	
Lisbon,		174	
Manaos,		3	
Manilla,		210	
Melbourne,		117	
Messina,		43	
Monte Video,		87	
Mollendo,		150	
Naples,		215	
Norrkoping,		20	
Oporto,		25	
Padang,		50	
Piræus,		30	
Punta Arena,		15	
Rangoon,		40	
Rio de Jan.,		10	
Rio Grande,		170	
Sagua la Grande,		15	
Santos,		235	
Savanilla,		50	
Singapore,		10	
Smyrna,		46	
Sourabaya,		8	
Sydney,		57	
Talchuano,		25	
Valencia,		130	
Venice,		245	
Vera Cruz,		100	

Chemicals (*oth rwise undescribed*)

Colon,	5 kgs.		£4
Constanti'ple,	10		17
Cienfuegos,	50		40
Auckland,	50	40 brls.	116
Nelson,	10		9
Lyttelton,	20		19
Wellington,	50	10 cs.	60
Venice,	20		34
Maranham,	1		1
Montreal,	102 cks.		814
Copenhagen,	1		12
Stockholm,	2		24
Hamburg,		10 dms.	39
B. Ayres,		360	840
New York,		10	27

China Clay—

Lisbon,		48 bgs.	
St. Johns,		62 pks.	
Vera Cruz,	72 cks.		
Barcelona,	220		
Boston,	1,504		
Leghorn,	20		
Manila,	20		
Melbourne,	128		
Pernambuco,		40	
Port Elizabeth,	250		

Coal Products—

Aniline salts			
Constantinople,		10 br'ls.	£60
Boston,	8 cks.		100
Madras,		10	57

Copperas—

Teneriffe,		5 t. 12 c.	£11

Copper Sulphate—

Danzig,	2 t.	10 c.	£73
Torreon,	1	1	31
Galatz,	4	8	132
Odessa,	5		130
Marseilles,	15	1	464
Bombay,		1	2
Ferrol,		5	8
Kingston,	1	18	55
St. Petersburg,	5	2	146
Stettin,	4	12	132

LIVERPOOL.

Week ending August 9.

Acetic Acid—

Canterbury,		16 c	£21
Piræus,	1 t.		15

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Copper Sulphate—
Catania, 4 t. 19 c. £145
Calcutta, 1 30
Cottonseed Oil—
Bathurst, 25 brls.
Marseilles, 410
Cyanide (*otherwise undescribed*)—
Sekondi, 1 t. 3 c. £85
Disinfectant—
Montreal, 20 brls. £16
H. Kong, 1 cs. 14
Shanghai, 3 cks. 1 19
Sekondi, 10 25
Victoria, 7 dms. 7
Calcutta, 120 15
Port Elizabeth, 3 12
Madras, 69 pks. 88
Dried Blood—
Teneriffe, 3 t. £30
Fertiliser—
New York, 198 t. £770
Vancouver, 40 cks. 104
Glycerine—
Victoria, 9 t. 18 c. £410
Montreal, 48 7 2,032
Cape Town, 3 9
Glycerine (Crude)—
New York, 71 t. 10 c. £2,477
Philadelphia, 31 945
Glue—
Amsterdam, 10 bgs.
Antwerp, 5 bls.
Bombay, 2
Calcutta, 28 cks.
Havana, 7 cs.
Melbourne, 40 tins
New York, 160 bgs. 10 dms.
Guano—
Teneriffe, 2 t. £11
Las Palmas, 16 1 c. 120
Hydrochloric Acid—
Demerara, 2 cs. £2
Iron Oxide—
New York, 20 cks.
Lead Acetate—
Kingston, 1 ck. £1
Linseed Oil—
Alexandria, 50 brls.
Bahia, 11
Bahia Blanca, 5
Callao, 205 dms.
Ceara, 30
Christchurch, 4
Durban, 2
Hamburg, 4
Havana, 61 63
Iquique, 132
Para, 4
Patras, 5
Saqua La Grande, 20
Valparaiso, 400
Bombay, 156
Corfu, 3
Lagos, 2 1
Piræus, 2
St. Johns, 2 cks.
Samaos, 3
Smyrna, 6
Taltal, 70
Magnesia—
N. York, 1 t. 3 c. / 4 cs. £80
Vera Cruz, 1 1
Havana, 5 c. 8
Magnesia (Calcined)—
Quebec, 9 c. £24
Magnesite (Calcined)—
Delagoa Bay, 4 t. 6 c. £60
Magnesium Carbonate—
Antofagasta, 1 t. 1 c. £46
Barcelona, 3 18 72
Cape Town, 5 95
Magnesium Chloride—
Antofagasta, 1 t. 19 c. £9
Calcutta, 15 19 43
Rangoon, 1 19 8
Magnesium Citrate—
Barcelona, 7 c. £28
Magnesium Sulphate—
Durban, 1 t. 10 c. £8
Calcutta, 1 ck. 1
Manure—
Teneriffe, 23 t. £106
New York, 143 16 c. 830
Havana, 51 325
Havre, 3 15 30
Manure—
Calcutta, 13 pks. £20
Oxalic Acid—
Karachi, 11 c. £13
New York, 3 t. 4 111
Oxalic Acid (Crystals)—
Leghorn, 4 t. 4 c. £148
Paraffin Wax—
Cape Town, 17 bls.
Copenhagen, 8
Phosphorus—
Kobe, 2 t. 4 c. £320
Shanghai, 1 15 265
Phosphorus Amorphous—
Kobe, 2 t. 4 c. £440
Yokohama, 13 135
Potassium Bichromate—
Alexandria, 7 t. 10 c. £231
Lisbon, 1 2 36
B. Ayres, 5 130
Aleppo, 2 61
Potassium Carbonate—
New Orleans, 4 t. 17 c. £141
Potassium Chlorate—
Konigsberg, 2 t. 10 c. £21
Copenhagen, 5 150
Naples, 2 9 64
Genoa, 19 26
Leghorn, 19 26
Hamburg, 6 17 200
Christiania, 6 5 188
Kobe, 25 450
Yokohama, 12 10 375
Potassium Prussiate—
Genoa, 4 t. 18 c. £277
Pyrolignite of Lime—
Lisbon, 10 c. £6
Rubber—
Amsterdam, 18 cs.
Salammoniac—
Catania, 1 brl. £4
Palermo, 1 6
Larnaca, 1 4
Gothenburg, 16 c. 30
Barcelonia, 2 77
Shanghai, 2 4 57
Beyrout, 1 39
Bombay, 4 1 145
Trieste, 1 37
Galatz, 1 3 46
Varna, 10 19
Montreal, 2 78
Bara, 16 44
Salt—
Antofagasta, 350 cs.
Antwerp, 65 t.
Baltimore, 115
B. Ayres, 23 12 c 250
Calabar, 54
Calabar, 54
Campo, 115
Cape Town, 5 100
Constantinople, 10 brls.
Dunedin, 150
Hamburg, 250
Havre, 200
Iquitos, 35
Kingston, 75
Kribi, 11 18 c.
Lagos, 16 1
Lyttelton, 150
Madras, 1
Manaos, 38 7
Melbourne, 51
Montreal, 450
New York, 100
Okopedi, 14
Oran, 20
Port Maria, 3 5
Rio del Rey, 26 16
Rio Grande, 1 1
St. Johns, 5
Sapeli, 6
Cape Lopez, 4 9
Delagoa Bay, 15
Sekondi, 9
Saltcake—
Philadelphia, 33 t. 7 c. £56
Adelaide, 10 7 21
Antwerp, 51 13 52
Saltpetre—
Maranham, 18 c. £28
Sheep Dip—
Cape Town, 80 bgs. £25
P. Arenas, 11 t. 200 dms. 264
Nelson, 1 ck. 50 35
Odessa, 3 5 cs. 3
Monte Video, 10 t. 307
P. Elizabeth, 6 8 c. 110
E. London, 6 100
Soap—
Bangkok, 8 bxs.
Barranquilla, 914
Christchurch, 7 cs. 250
E. London, 10
Melbourne, 6
Mossel Bay, 10 s. 600
Nagasaki, 200
Piræus, 20
Alexandria, 41 10 brls.
Axim, 4
Beira, 58
Calcutta, 1 227 bdls.
Delagoa Bay, 553 bxs.
Durban, 551
Fiume, 80
Galata, 25
Gibraltar, 200
Gothenburg, 462
Hamburg, 266
Iquique, 100
Karachi, 5
Kingston, 309
La Libertad, 11
Las Palmas, 160
Malta, 1 36
Melilla, 150
New York, 60 kgs.
Opobo, 590 bxs.
Port Limon, 200
Rosario, 1
St. Kitts, 240
Shanghai, 6 brls.
Smyrna, 10
Valparaiso, 200 cs.
Vancouver, 3
Soap Extract—
Delagoa Bay, 13 skl-cs.
Dunedin, 60 cs.
Wellington, 5 t. 10 c.
Soda Ash—
Dunedin, 24 pks.
M. Video, 311 cks.
Bahia, 33 kgs. 20 brls.
Bombay, 16 cks. 140 bgs.
B. Ayres, 130
Calcutta, 2,700
Callao, 222
Catania, 100
Christiania, 50
Copenhagen, 1,200
Delagoa Bay, 200 kgs.
Durban, 11
Gothenburg, 63 400
Hiogo, 147 1,200
Huelva, 400
Las Palmas, 207
Lisbon, 100
Manaos, 20 brls.
Melbourne, 28 57
Montreal, 200
New York, 104
Norrkoping, 14
Palermo, 400
Piræus, 100
Rio de Jan., 90
Rotterdam, 2 94
Samarang, 340
Santos, 22 20
Shanghai, 750 672
Smyrna, 10
Sourabaya, 30 190
Venice, 278
Sydney, 197
Yokohama, 50
Zante, 43
Soda Crystals—
Belize, 25 kgs.
Bombay, 50
B. Ayres, 500 dms.
Calcutta, 75
Cape Town, 20
Gibraltar, 45 brls.
Malta, 30 50
Montreal, 133 bgs.
Pernambuco, 50
Rangoon, 16
Rio de Jan., 30
St. Johns, 40
Sodium Bicarbonate—
Adelaide, 100 kgs.
Boston, 70 cks.
Beyrout, 70
Bombay, 270 64 bgs.
B. Ayres, 47
Calcutta, 20 430
Catania, 30 50
Colombo, 17
Corunna, 4 14
Ferrol, 20
Galatz, 206 dms.
Genoa, 105 kgs.
Hiogo, 390
Karachi, 5
Launceston, 20 160
Sodium Bicarbonate—
Melbourne, 364 dms. / 262 kgs.
Montreal, 75 cks.
Palermo, 4
St. Johns, 50
San Jose de G'mala, 60
Santiago de Cuba, 10
Singapore, 20 10
Sourabaya, 25
Tangier, 6
Wellington, 100
Yokohama, 1,050 1,000
Barbadoes, 6
Christiania, 3
Dunedin, 92
Galveston, 225
Malta, 20
Penang, 40
Pernambuco, 10
P. Swet'nham, 6
Rangoon, 67
Sodium Bichromate—
Alexandria, 4 cks.
Sodium Hyposulphate—
Callao, 25 cks.
Sodium Prussiate—
Calcutta, 6 cks.
Sodium Silicate—
Barranquilla, 7 cks.
Boston, 50
Christchurch, 72 dms.
Oporto, 20
Piræus, 30
Valencia, 41
Bombay, 4
Sodium Sulphide—
Bombay, 20 dms.
Bourgas, 2
Barcelona, 22 £25
Sulphur—
Iquitos, 3 c. £1
Montreal, 250 t. 4 638
Para, 5 1
Sulphuric Acid—
Sekondi, 1 cs. £1
Bahia Blanca, 4 12
Bombay, 3 t. 15 c. 50
Calabar, 2 4
Superphosphate—
Gijon, 19 c. £5
Las Palmas, 1 t. 4
Seville, 1,856 4 4,702
Lisbon, 346 1,039
Durban, 196 10 522
Teneriffe, 14 12 37
Orotava, 6 14 24
Alicante, 173 6 412
Tallow—
Antwerp, 50 trcs.
Braila, 60 brls.
Vigo, 28
Tartaric Acid—
P. Swet'nham, 1 ck. £6
Havana, 5 c. 28
Turpentine—
Christchurch, 10 brls. 1 dm.
Havana, 50
Lisbon, 50 cs.
Valparaiso, 40
Callao, 100
Mollendo, 100
Wax—
Alexandria, 10 cs.
Zinc Ashes—
Rotterdam, 2 t. 8 c. £30
Zinc Chloride—
Tampico, 25 t. 9 c. £325
Bombay, 2 6 27

MANCHESTER.

Period ending August 7.

Ammonium Carbonate—
Montreal, 3 cks.
Ammonium Sulphate—
Rotterdam, 500 bgs.
Bones—
Rouen, 192 bgs.
Calcium Carbide—
Bushire, 2 cs.
Caustic Soda—
Jaffa, 110 dms.
Monastir, 3 cks.
Tunis, 10
Chemicals (*otherwise undescribed*)
Montreal, 81 cks. 15 kgs.
Alexandria, 220 bgs.
Beyrout, 44 3
Tunis, 3

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Coal Products—
Aniline Colour
Ghent, 4 kgs.
Hamburg, 10 c.
Creosote Oil
Lisbon, 397 t. 15 c.
Naphthylamine
Antwerp, 72 cks.
Tar
Rotterdam, 50 cks.

Colours—
Antwerp, 2 cks.
Gothenburg, 1 kg.
Hamburg, 3 pks.
Famagusta, 5

Dyestuffs—
Extracts (*otherwise undescribed*)
Antwerp, 6 cks.

Glue—
Antwerp, 6 cks.
Rotterdam, 12

Glycerine—
Stockholm, 48 cbys.

Iron Oxide—
Antwerp, 3 cks.
Malta, 16

Linseed Oil—
Famagusta, 1 brl.

Mineral White—
Dunedin, 10 cks.

Potassium Chlorate—
Ghent, 20 cks.

Red Lead—
Famagusta, 1 kg.

Salammoniac—
Bushire, 4 brls.
Alexandria, 10
Tripoli, 4 kgs.

Salt—
Quebec, 194 t.
Rotterdam, 200

Sheep Dip—
Antwerp, 10 dms.
Lyttelton, 25

Soap—
Antwerp, 1 cs.
Alexandria, 23

Soap Powder—
Rotterdam, 24 cs.

Sodium Bicarbonate—
Boyrout, 60 kgs.
Jaffa, 15
St. Jean d'Arc, 20
Tunis, 20

Sodium Borate—
Montreal, 20 cks.

Tallow—
Bombay, 12 brls.

HULL.

Week ending August 3.

Ammonium Sulphate—
Stettin, 600 bgs.

Chalk—
Rotterdam, 2 cs.

Chemicals (*otherwise undescribed*)
Amsterdam, 41 cks.
Antwerp, 6 10 cs. 12 pks
Alexandria, 368 20 bgs.
Boston, 23
Bremen, 6
Bombay, 498 5 10 dms.
Con'nople, 15 40 kgs.
Christiania, 6 300
Copenhagen, 24
Danzic, 120 7 2
G'thenb'rg { 100 / 5 cs.
Hamburg, 32 100 pks.
Helsingfors, 10 5
Karachi, 2 100 dms.
Melbourne, 3
New York, 23 40
S. Petersburg, 41 40 kgs.
Sydney, 3 120
Stettin, 10
Stockholm, 100 bgs. 1 dm.
Rouen, 10 40
Rafso, 10 30 pks.
Riga,

Coal Products—
Pitch
Helsingfors, 272 t.
Sydney, 5 cks
Tar
Danzig, 3 cks.
Ghent, 2
Wasa, 50

Cottonseed Oil—
Bremen, 4 t. 7 c.
Christiania, 1 18
Dunkirk, 13 13
Hamburg, 26 1
Rotterdam, 26 16
Stettin, 1 14
Stockholm, 3

Dyestuffs (*otherwise undescribed*)
Antwerp, 2 kgs.
Stettin, 9 dms.

Ferro Silicon—
New York, 150 t.
Aalesund, 10

Glue—
Amsterdam, 5 bgs.
Boston, 93 cks.
Ghent, 40
Gothenburg, 50
Sydney, 5 5
Rotterdam, 1 1 kg.

Linseed Oil—
Adelaide, 17 t. 1 c.
Alexandria, 19
Bremen, 8 15
Christiania, 1 16
Copenhagen, 1
Drontheim, 2 2
Hamburg, 8
Melbourne, 59 11
Sydney, 38 11

Manure—
Bremen, 488 bgs.
Hamburg, 2,550
St. Petersburg, 15
Karachi, 570 t.

Mineral White—
Amsterdam, 100 bgs.
Christiania, 50

Phosphate—
Wasa, 170 t.

Tallow—
Bombay, 8 cks.

Turpentine—
Alexandria, 20 dms.
Copenhagen, 7 cks.
Hamburg, 22 2 cs.
Melbourne, 11 1
Rotterdam, 70
Sydney, 10

Wax—
Odessa, 40 bgs.

GLASGOW.

Week ending August 8.

Alum—
Madras, 1 t. 2 c.

Ammonium Sulphate—
Baltimore, 100 t. 11 c.
U.S.A., 830 16
Hamburg, 60 15
Mauritius, 204 11
Nantes, 10 2 1 q.

Asbestos—
Rangoon, £22

Borax—
Rotterdam, 17 c.

Boracic Acid—
Rotterdam, 17 c.

Coal Products—
Benzol
Rotterdam, 8 t. 10 c.
Carbolic Acid
Rotterdam, 5 t.
Creosote Oil
Christiania, 10 t. 10 c.
Helsingfors, 327 2
Stockholm, 2 18 3 q. £75
U.S.A.,
Hamburg, 8 8
Pitch £35
U.S.A.,
Hamburg, 15 t. 5 c.
Tar
Calcutta, 18 c. 3 q.
Delagoa Bay, £21
Tar and Pitch
Canada, 14 t. 4 c.
Karachi, 8 10 3 q.

Dried Blood—
Nantes, 15 t. 2 q.

Farina—
Calcutta, 6 t.

Fish Oil—
Genoa, 3 t. 1 c. 1 q.
Hamburg, 22 5 2

Gelatine—
Canada, 9 c.
U.S.A., £127

Gutta Percha—
Amsterdam, 215 lb.

Infusorial Earth—
Flensburg, 5 t.

Lead Ore—
Cameron, 91 t. 19 c. 1 q.

Linseed Oil—
Bombay, 1 t. 4 c.
P. Chalmers, 7 2 q.
Jaffa, 1 18
Beyrout, 1 14 2

Manure—
U.S.A., 21 t. 18 c. 2 q. £37

Manganese—
Genoa, 1 t. 17 c. 1 q.

Paraffin Wax—
Naples, 16 t. 16 c.
Helsingfors, 82 15 9 lb.
Stockholm, 1 9 3 q.
Belgium, 5 1
Kingston, 1 14 3

Paraffin (Solid)—
Genoa, 8 t. 7 c. 1 q.
Leghorn, 4 8 2
Naples, 29 10 2
Rouen, 3 5

Potassium Bichromate—
U.S.A., 4 t. 3 c. 2 q.
Rotterdam, 4 16
Alexandria, 5 1 1

Potassium Carbonate—
Calcutta, 1 t. 13 c. 2 q.

Red Lead—
Calcutta, 2 t. 12 c.
Wellington, 1 6

Soap—
Madras, 3 t. 12 c.
Rangoon, 5 11 1 q.

Soap Powder—
P. Chalmers, 2 t. 3 c. 2 q.

Sodium Bichromate—
Rouen, 5 t. 3 c.

Sodium Cyanide—
Parral, 10 t.

Sodium Sulphate—
Halmstad, 195 t.

Turpentine—
Alexandria, £22

White Lead—
Calcutta, 5 t. 7 c.
Natal, 11

TYNE.

Week ending August 3.

Aluminium—
Bilbao, 10 c.

Ammonium Carbonate—
Aarhus, 10 c.
Batoum, 11 1 q. 5 lb.

Antimony—
Con'nople, 1 t. 7 c. 27 lb.

Antimony (Regulus)—
Rotterdam, 6 t. 9 c. 3 q. 23 lb.
Montreal, 5 6 3 14

Barium Binoxide—
Dunkirk, 35 t. 4 c. 3 q. 22 lb.
Genoa, 16 27
Naples, 2 12 1 3
Leghorn, 23 11 1 18

Bleaching Powder—
Gothenburg, 20 t. 2 c. 3 q. 10 lb.
Aarhus, 1 3 10
Rotterdam, 4 19 1 6
Copenhagen, 10 1 1 26
Helsingfors, 650 3 3 20

Bone Meal—
Hamburg, 64 t. 2 c.

Castor Oil—
Montreal, 4 t. 2 c. 3 lb.

Caustic Soda—
Gothenburg, 4 t. 18 c. 2 q. 18 lb.
Genoa, 68 2 24
Antwerp, 4 18 2 18
Montreal, 26 15 2 24
Copenhagen, 11 12 26
Stavanger & Bergen, 4 2
Helsingfors, 15 1 3 4
Christiania, 2 18 4

Coal Products—
Tar
Frederikshaven, 8 c. 8 lb.

Glue—
Montreal, 10 c. 25 lb.

Iron Sulphide—
Dunkirk, 70 t.

Litharge—
Gothenburg, 1 t. 10 c. 3 q. 11 lb.
Hamburg, 2 5 1 2

Manure—
Genoa, 10 t. 3 c. 1 q
Lisbon, 1,215 6 1 16 lb.

Magnesia—
Genoa, 11 c. 3 q. 20 lb.
Montreal, 26 t. 15 2 24

Pitch (Stearine)—
Montreal, 5 t. 14 c. 3 q. 16 lb.

Red Lead—
Gothenburg, 6 t. 18 c. 2 q. 19 lb.
Genoa, 9 5 7
Rotterdam, 2 16 21
Leghorn, 3 1 1 2
Con'nople, 1 5
Batoum, 3
Odessa, 6 7 2 11
Helsingfors, 2
Christiania, 2 8 1 22

Soda (*otherwise undescribed*)—
Christiania, 4 t. 8 c. 3 q. 1 lb.

Soda Crystals—
Leghorn, 3 t. 14 c. 2 q. 16 lb.
Amsterdam, 25 25 16

Sodium Sulphide—
Genoa, 51 t. 16 c. 1 q. 26 lb.
Gothenburg, 9 10 9
Naples, 4 9 3
Piræus, 3 3 8
Naples, 6 10 3 27

Sulphur—
Christiania, 5 t.
Gothenburg, 55

Tallow—
Genoa, 6 t. 2 c. 3 lb.
Helsingfors, 15 2 q. 23

White Lead—
Rotterdam, 2 t. 4 c. 3 q. 13 lb.
Copenhagen, 1 14 3 1
Batoum, 3 1 7

Witherite—
Odessa, 15 t.

GOOLE.

Week ending August 3.

Benzole—
Rotterdam, 80 dms.

Chemicals (*otherwise undescribed*)
Antwerp, 20 cks.
Boulogne, 2
Copenhagen, 10
Hamburg, 172
Rotterdam, 27 30 cs. 16 dms.

Coal Products (*otherwise undes.*)—
Amsterdam, 274 cks.
Boulogne, 70
Hamburg, 49
Rotterdam, 50

Colours—
Amsterdam, 1 cs.
Antwerp, 17 cks. 1
Ghent, 1
Hamburg, 5
Rotterdam, 1
Boulogne, 13 1 45 dms.

Dyestuffs (*otherwise undescribed*)
Antwerp, 13 cks. 1 cs.
Rotterdam, 39 4

Manure—
Antwerp, 317 bgs.
Copenhagen, 226

GRIMSBY.

Week ending August 3.

Chemicals (*otherwise undescribed*)
Hamburg, 7 cks. 60 kgs.

Coal Products (*otherwise undes.*)
Dieppe, 30 cks. 10 dms.
Hamburg, 6 pks.

Colours—
Dieppe, 2 cks.
Hamburg { 10 dms. / 4 pks.

Dyestuffs (*otherwise undescribed*)
Hamburg, 8 pks.
Rotterdam, 8 kgs.

Manure—
Hamburg, 1,468 bgs.

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PRICES CURRENT.

FRIDAY, August 16, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2.000°	,,		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3⅞
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	32	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	16	3
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	40	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¼
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¹
,, (filtered for Lucigen light)	,,	0	0	2¼
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	5	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	76	10	0
,, Sulphate	,,	29	10	0
,, Oxide (copper scales)	,,	69	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	10	0
,, Litharge Flake (ex ship)	,,	23	0	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	15	0
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	30	0	0
Linseed	,,	24	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8¼
,, Hydrate (Caustic Potash) 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	6
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 15/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	24	10	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	0
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	170	0	0
Zinc (Spelter)	,,	22	5	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE CANAL PROBLEM.

THE deliberations of the Royal Commission on Canals and Waterways are now sufficiently complete to justify some forecast as to the probable result of the investigations. The conclusions at which the Commission may arrive will indicate the direction which legislation may take, and in an article in the current number of the *Financial Review of Reviews*, Mr. L. F. Vernon-Harcourt, M.A., M.I.C.E.,—a leading authority on inland waterways, shows how far the conclusions of the Royal Commission may affect the future prospects of the canal companies. Mr. Vernon-Harcourt was for many years Professor of Civil Engineering at University College; he has been to India to report on the River Hugli to the Calcutta Port Commissioners; was British member of the International Jury in Vienna on projects for canal lifts; a Government delegate to the Milan Navigation Congress of 1905; and last year was made a British member of the Suez Canal Works Consultative Commission.

After summarising the efforts which had been made in recent years to resuscitate inland navigation in this country, Mr. Vernon-Harcourt observes that an inquiry into the conditions affecting the traffic by water in the countries in Europe possessing the most developed systems of inland navigation, demonstrates that, in view of the unfavourable physical conditions in England for the extension of inland waterways, it would be useless to attempt making improvements, except where large quantities of bulky goods require to be conveyed to large centres of trade, or to ports with access to the sea, or where, like Birmingham, a large inland town, possessing a suitable trade, would be materially benefited by a waterway affording it a convenient and economical mode of transport to a navigable tidal river. Owing to the extensive seacoast of England in proportion to its area, and the large estuaries and tidal rivers with which it has been endowed by nature, improved in some cases by engineering works, most of the large towns, such as London, Liverpool, Hull, Bristol, Newcastle, and Sunderland, and recently Manchester by its canal, have ready access to the sea; whilst the coalfields of South Wales are accommodated by the numerous Bristol Channel ports, and some of the iron industries of the North by the ports of Barrow and Middlesbrough. These circumstances greatly limit the scope for inland navigation; whilst the salt mines of Cheshire have already been fully provided for by the successive improvements in the Weaver Navigation, and some of the collieries of Yorkshire by similar works on the Aire and Calder Navigation.

Any attempts to revive inland navigation throughout England (continues the writer) could only prove abortive; and the only waterways to which attention may be directed

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with advantage, with the object of improving their capabilities for traffic, are the Grand Junction Canal connecting London by water with the Midlands, the Stafford and Worcester Canal, the Leeds and Liverpool Canal, the waterway from Sheffield to the Humber, the canals clustering round Birmingham, and those passing through the Potteries and accommodating the northern mining and manufacturing districts; whilst provision should be made for putting Birmingham in connection with the sea by a commodious waterway. Nearly all the waterways within the district bounded by the Birmingham and Shropshire Union Canals, the Leeds and Liverpool Canal, the Aire and Calder Navigation, the Don Navigation, a line d awn from Sheffield to Stoke, and the Trent and Mersey Navigation from Stoke to the Birmingham Canals, have a large traffic at the present time, in spite of a great want of uniformity, and inadequate dimensions in many cases, showing that they accommodate a suitable trade for waterways; and if they could be enlarged and given uniform dimensions at a reasonable cost, the trade of the district would be much benefited. The problem of connecting Birmingham by a good waterway to the sea is a difficult one, on account of Birmingham being situated in the centre of England, and about 400 feet above sea level. The easiest and much the shortest route is to the River Severn, following the line of the Birmingham and Worcester Canal, where, after passing through some tunnels in the first thirteen miles of high level from Birmingham, it falls in the next seventeen miles to the Severn. The route to the River Weaver, and thence to the Mersey, would more nearly coincide with the present main course of trade from Birmingham, and would accommodate other places on its route; but it would involve a canal rather over twice the length of a canal to the Severn, and would have to surmount two summit-levels, involving considerable differences in level before beginning to descend about 400 feet to the Weaver. A canal from Birmingham to London along the line of existing canals, besides being twice the length of a canal to the Weaver, would equally necessitate surmounting two summit-levels, with considerably greater variations in level, and therefore need not be considered.

By restricting schemes of improvement to the waterways enumerated above, all would be done for promoting inland navigation in England which could be reasonably expected to be financially practicable; and Birmingham, which has gone to South Wales for its water supply, might advantageously take up the problem of obtaining connection by water with the sea; and if, on careful investigation, it should be found that a canal could be constructed at a cost not exceeding its advantages direct and indirect, the Birmingham Corporation should be able without difficulty to raise the necessary funds. Railway shareholders need have no apprehensions that any revival of inland navigation in England will appreciably injure their interests, for if conducted on a large scale it must inevitably result in failure; whereas if confined to the districts where the traffic is liable to be congested by the carriage of bulky goods, it will tend to relieve the railways of that special district from an excess of its least remunerative traffic, and by extending facilities of transit where most needed, it will be calculated to promote the trade of the country with benefit to all interests concerned. A commodious waterway from Birmingham to the sea might for a time reduce the bulky traffic on the lines now giving it access to seaports; but before long the extension of the trade of Birmingham likely to arise from increased facilities of transport would doubtless restore the balance.

Mr. Vernon-Harcourt concludes:—"The future of English waterways, as indicated in the improvements proposed, based upon the foregoing considerations, derived from a study of the conditions of Continental waterways, is, indeed, not nearly so bright and far-reaching as the most ardent advocates of inland navigation in England picture to themselves; but the works suggested, limited to districts affording good prospects of a large traffic in bulky goods, are the only ones likely to be attended with successful results, and with benefit to the general trade of the country. The Government could advantageously assist in the accomplishment of these objects by facilitating the requisite amalgamations and unification of control of the waterways to be improved, and the obtaining of the necessary powers for carrying out the works; whilst for schemes for affecting these improvements, which after thorough investigation proved perfectly sound, loans on easy terms might be granted for providing for the expenses of the works."

NITRATE OF SODA.

Business is at a complete standstill, with buyers and sellers wide apart as to values. The market is nominally firm at the equivalent of 11s. per cwt. on spot in Hamburg, and producers ask 9s. 2d. per quintal, f.o.b., for autumn shipment from Chili, but the latter figure, with freight at 15s. per ton, is considerably higher than that at which the same nitrate is freely offered for spring delivery in Europe. All ports are heavily stocked, both on the Continent and in the United Kingdom, larger quantities being warehoused in London and Liverpool than for many years past; holders would accordingly make concessions except for the fear of spoiling the market ahead. The dearness of money in Germany, and the consequent difficulty in financing cargoes, have led to the ordering of many ships to Antwerp, Rotterdam, and Dunkirk, instead of to Hamburg, the largest emporium for the Chilian fertiliser. The August shipments from Chili to Europe are estimated at 88,500 tons, or about the same as last year, and the first direct consignment to Egypt (6,400 tons) has just been effected by steamer. The mysterious curtailment of the output of nitrate of soda was repeated last month, when only 154,977 tons are said to have been produced, compared with 155,514 tons in July, 1906, although the number of "oficinas" had increased from 113 to 129; four of these—Candelaria, Carmen Alto, Florencia, and Luisis—commenced operations in June, producing 6,000 tons of nitrate.

GERMAN STRIKES AND LOCKOUTS.

THE statistics of strikes and lock-outs in Germany in the year 1906 which the Imperial Statistical Department has recently published show that the total number of labour disputes which came to an end in the twelve months was 3,626, of which 3,328 were strikes and 298 were lock-outs. This compares with preceding years as follows:—

1899	1,311	1903	1,444
1900	1,468	1904	1,990
1901	1,091	1905	2,687
1902	1,106	1906	3,626

In only one of these years was there a drop, and that year (1901) was a year of commercial and industrial depression in Germany. In 1906, on the other hand, not only did the number of labour disputes reach a maximum, but the difference between that and the preceding year was the greatest on record, viz. 969.

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THE GERMAN CHEMICAL TRADE IN 1906.—II.*

By Consul-General Sir William Ward.

THE recovery of trade which set in about three years ago in Germany further maintained itself during the year 1906, and the somewhat pessimistic apprehensions entertained in some quarters concerning the probable effects of the new German customs tariff, as well as of the new commercial treaties concluded recently between Germany and several other States, upon commercial and industrial interests in this country, have, so far at all events, not been realised. Favoured by the peaceful political condition of most parts of the world which prevailed during the past year, all branches of German industry experienced a further considerable development, which was on the one hand the cause and on the other hand the effect of the increased activity in the trade and shipping of this and of the other trading commercial seaports of Germany during the year 1906.

HAMBURG.

Cement.—The present position of the German cement industry is considered to be upon the whole satisfactory. At the end of last year the works existing in this country were employed to the utmost of their capacity, and the firms at Hamburg and elsewhere who were engaged in the cement trade are said to have done a fairly profitable business. Very considerable quantities of German cement were last year again exported from this country for the account of Hamburg firms, though a large portion of the amount shipped from this port is merely transit trade for the account of the German factories situated in the interior.

The total number of larger cement works at present existing in Germany is stated to be about 80, while there are besides these a very large number of works of less importance. Of the various groups of German cement works formed many years ago according to their geographical position some had recently been dissolved, but they have now all become reunited. The conditions under which the works forming these different groups have combined together are not in all cases the same, for whilst several bear the character of a trust and the sale of the products of the works belonging to each group is left to a syndicate, the factories belonging to other groups attend themselves to the sale of their products, and are merely obliged to keep to the sale prices agreed upon between all the various groups of German cement works.

The exact extent of the total German cement production in 1905 is not, at present, ascertainable; it may, however, be roughly estimated at 15,000,000 casks (of 170 kilos. each), and it may be regarded as probable that the production in 1906 has been still greater.

Considering that the number of cement works now existing, not only in Germany, but also in the United Kingdom, France, and Belgium, without mentioning other European countries, is such a large one, and that the total cement production in all parts of Europe has been increasing from year to year, the necessity of finding fresh markets for this constantly expanding output is naturally felt also by the German cement industry to be a question of urgent importance.

The following figures will show the total annual quantity and value of the export of cement from Germany during each of the six years 1900-05, viz.:—

Year.	Quantity. Tons.	Value. £	Year.	Quantity. Tons.	Value. £
1900	600,386	1,271,900	1903	742,381	900,500
1901	560,612	921,700	1904	635,248	836,300
1902	699,378	999,800	1905	675,664	890,500

It will be seen that whilst with certain fluctuations the total volume of the exports of cement from Germany has increased during the six years 1900-05 by about 75,300 tons, the value has decreased by £381,000., thus showing the considerable fall which has taken place in price.

During the same period the total cement exports from the United Kingdom (according to Board of Trade Returns) have been as follows:—

Year.	Quantity. Tons	Value. £	Year.	Quantity. Tons.	Value. £
1900	673,000	—*	1903	399,988	676,752
1901	584,000	—*	1904	384,583	632,356
1902	521,000	—*	1905	456,558	721,786

* Not known.

* Special abstract of the British Consul-General's Annual Report on the Trade and Commerce of the Consular District of Hamburg for the year 1906.

The principal markets for British cement, in order of their importance, are:—British India, South Africa, Canada, New Zealand, the Argentine Republic, Brazil, Australia, and the United States of America, etc., whilst the principal markets for German cement are the Netherlands, the United States of America, Belgium, Brazil, Austria-Hungary, South Africa, Denmark, etc. Until a few years ago the United States of America imported very much larger quantities of cement, both from the United Kingdom and from Germany, than at present; but during recent years, as is well known, the cement industry in that country itself has been rapidly growing in importance, and from being merely a country of import the United States of America have now become one of export, and have even of late begun to enter into competition with other exporting States, for instance to South America, where the consumption of foreign cement is now increasing from year to year

Potato Products.—The total area in Germany under potato cultivation in 1906 was 0.44 per cent. less than in 1905, but the total yield was 42,936,702 tons against 48,323,353 tons in 1905. The exports from Germany of potato starch amounted in 1906 (10 months) to 377,150 cwts. against 130,071 cwts. in 1905, and the exports of dextrine to 154,269 cwts. against 141,314 cwts. in 1905. Business in potato products is, however, considered to have been dull, and the export business is said to have been seriously hampered on account of the increased production in the Netherlands and of the difficulty experienced by German starch factories in obtaining potatoes upon favourable terms. The production of grape sugar (including the liquid variety) largely exceeded that of 1905, but business was dull throughout the year.

Oils.—There was a rise in prices for all classes of oils and fats, with the exception of linseed oil, which was steady and remained the cheapest vegetable oil. The imports of linseed amounted to 1,039,000 tons against 1,059,000 tons in 1905. The imports from India amounted to 217,000 tons.

Germany's demand for olive oil for technical purposes was, in the course of 1906, supplied almost exclusively from Crete, where the output was far greater than in any previous year. The total imports of olive oil to Hamburg in 1906 were considerably less than for several years past, viz., 8,756 barrels, of which 6,619 barrels came from the Levant, including Crete.

The production of steam train oil in 1906 was unusually prolific, and was even somewhat in excess of 1905. There appears to be a large increase in the use of this oil at low prices. Crude medicinal train oil was little manufactured, and appears to be little in demand in consequence of the low prices of steam train oil. There was, for the same reason, a falling-off in the sales of white and brown medicinal oil. The total imports in 1906 of brown train oil were 6,500 barrels (against 8,500 barrels in 1905), of white train oil 156,200 barrels (against 92,800 barrels), of medicinal steam oil 6,400 barrels (against 6,800 barrels), and of crude medicinal oil 900 barrels (against 1,900 barrels in 1905).

Wax.—Business in beeswax is said to have developed during the last few years in an unusually favourable manner, so that Hamburg's leading position in this commodity was still further strengthened. Imports increased some 25%, and business was throughout the year satisfactory. The total imports from foreign countries amounted in 1906 to 43,018 cwts., as against 34,119 cwts. in 1905. In spite of the importation of carnauba vegetable wax having risen about 25%, the price continued to rise, from which it is inferred that this wax is indispensable for certain manufactures. The imports of carnauba vegetable wax were 32,607 cwts. The consumption of Japanese vegetable wax was about the same as in 1905, but prices became steadier.

Resin.—The fluctuations in the price of resin were not so great as in the previous year, but prices were very unsteady, and business was consequently impaired. In 1906 323,952 barrels of American and 22,284 barrels of French resin were imported, against 328,598 barrels of American and 18,774 of French resin in 1905.

Turpentine.—The imports of turpentine were rather less than in 1905, but the sales were larger. The imports of American and French (including Spanish, etc.) were 48,878 barrels and 15,500 barrels respectively, against 55,502 and 16,672 respectively in 1905.

Palm Kernels.—The amount of palm kernels imported in 1906, viz., 156,000 metric tons, was again insufficient to supply the demand of the German palm oil factories. Prices obtained a level hitherto not reached.

Dye-woods.—Business in dye-woods is said to have been better than in the previous year, owing to a general upward movement in prices such as has not been experienced for several years.

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The total imports to Hamburg of the chief sorts of dye-woods in 1906 and the preceding year were respectively as follows:—

	Cwts. 1905.		Cwts. 1906.
Campeachy logwood	114,000	..	157,150
Jamaica and Domingo logwood	98,200	..	199,350
Yellow wood	39,300	..	35,350
Red wood	14,700	..	17,680

Indigo.—In all classes of East Indian indigo less business was done than in the previous year, because the consumption had fallen off owing to the failure of the Indian crop the year before and to the consequent rise in prices. Guatemala indigo found a ready sale, and a large business was done in Java indigo, for this quality affords relatively the cheapest dye.

Quebracho Wood.—After the new German customs tariff had come into force (on March 1, 1906) business in quebracho wood and in Argentine quebracho extract declined, and prices reached an unusually low level; but it is confidently anticipated that better values will be realised in 1907. The imports of quebracho wood and Argentine quebracho extract amounted in 1906 to 99,000 tons and 14,320 tons, against 110,000 tons and 12,000 tons in 1905 respectively.

Myrabolans.—The new duty imposed upon myrabolans is considered to be relatively excessive, in view of the small value of this product, and consequently prices paid (under bond) fell considerably. The total imports of myrabolans amounted to 14,300 tons, against 15,000 tons in 1905.

Nitrate of Soda.—Chili saltpetre has not for many years obtained such prices as in 1906. The event of chief importance was the renewal for three years of the so-called ring of producers, the object of which is to determine the maximum exports for the year in accordance with the anticipated demand. Contracts were made for monthly deliveries f.o.b. up to 1911 and 1912. Prices at Hamburg averaged high and were subject to unusually violent fluctuations. The total imports amounted in 1906 to 564,000 tons, or 42% of the total exports from South America, against 510,000 tons in 1905.

Phosphates.—Throughout the year the prices paid for all classes of phosphates continued to improve. A brisk business was done and contracts were made extending over a number of years. The total imports to Hamburg and the neighbouring port of Harburg rose from 195,925 tons in 1905 to 215,874 tons in 1906, of which 148,676 tons consisted of Florida rock and 40,430 tons of Algerian phosphates. The price of Florida phosphates rose 33%, and of other sorts 20 to 30%.

Bones and Bone Flour.—The home supply of bones appears to have been ample for the requirements of agriculture in Germany, for only 1,350 tons of bones were imported against 4,097 tons in 1905; but the imports of bone flour rose from 7,323 tons in 1905 to 9,028 tons in 1906, of which 6,428 tons came from India.

Sulphate of Ammonia.—The production in Germany of sulphate of ammonia amounted to about 200,000 tons, which was an increase of about 25% over the previous year's output, and consequently the importation both in Germany and at Hamburg fell off considerably. The imports to Hamburg amounted to 7,646 tons, against 11,602 tons in 1905. The exports of this substance from the United Kingdom to Germany amounted to 17,545 tons, against 29,009 tons in 1905.

The Associated Chambers of Commerce.—The autumnal meeting of the Associated Chambers of Commerce will be held in Liverpool, on September 18 and 19.

The Rise in the Bank Rate.—The *Investors' Guardian* says:—"The rise in the bank rate was almost a foregone conclusion, and we marvel to see it stated that the rise both surprised and puzzled the Stock Exchange. We cannot believe that the Exchange was surprised, though in an uncertain mood it may profess to have been puzzled that the favourable bank return should accompany a rise in the discount rate. The storm signals had been up for some days, and the Bank, with its official minimum rate at 4%, had only been doing business at 4½%. The position was complicated by the fact that during the week the Bank gained in imported gold and by the return of coin and notes from circulation, and the decision of the Court of the Bank was late in appearing, from which it is generally deduced that the discussion was lengthy. With the usual American demand looming ahead, with Wall-street ready for firework displays in season and out of season, and with a German bank lately taking gold from the bullion market for the Continent, one feels reassured, rather than otherwise, now that the official minimum rate has been advanced."

PATENTS AND DESIGNS BILL, 1907.

THE following circular has been issued to all Members of the House of Commons by the Council of the Association of British Patentees:—

The Patents and Designs Bill was introduced as a non-party measure which appealed to the patriotic instincts of every section of the House of Commons. It purported to satisfy the desire for the abolition of various provisions in our patent law which notoriously have lent themselves to abuse by foreign manufacturers, to the detriment of British industries. Thus the Bill has easily reached the stage of Report, and bids fair to be carried without any serious opposition to its main proposals.

But whilst the Bill admittedly cuts into the very roots of our patent law, the great body of British inventors and patentees were neither consulted nor remembered when the legislature was invited to alter fundamentally the law affecting their property, and incidentally to prejudice gravely the commercial value of every existing and future British patent. In order to give a corporate expression to the objections which the Bill finds in the view of every British inventor and manufacturer working under the protection of British Letters Patent, the "Association of British Patentees" submits the following considerations. In now addressing the Members of both Houses of Parliament on the grave dangers threatened by the Bill to every patentee, the Association ventures to hope that the Bill will not be passed without such modifications as may tend to avoid the proposed most serious disregard to the established rights of inventorship and the interest of the community at large in their recognition and protection.

The unusually large number of amendments which have been set down promise to meet many of the merely technical objections to the Bill in its present form. The Association of British Patentees takes objection to the following principles embodied in the Bill.

Clause 6.—(1.) A sealed patent is no longer to be a final grant. The comptroller of patents will obtain the power to require the amendment of a specification even long after the grant has been completed and the sealed patent has become the foundation of commercial enterprise.

Clause 7.—(2.) The grant of any patent may be refused by the comptroller *proprio motu*, on the ground of anticipation, and the applicant will no longer be entitled to test the validity of an unopposed patent in the courts of law.

Clause 10.—(3.) Any person may harass applicants for patents oppositions even where he cannot prove the remotest interest in the subject matter.

Clauses 10 and 14.—(4.) The comptroller may revoke any patent on any ground available for opposition to the grant and on the application of any member of the public, and the patentee will have no right to appeal beyond one single judge of the High Court.

Clause 15.—(5.) The comptroller may revoke any patent if the patentee does not happen to attain full commercial success within the first four years; for the patent then becomes revocable, if it can be shown that the invention is worked exclusively or mainly outside the United Kingdom. The comptroller is to be allowed a limited discretion, but the Bill provides no definite safeguards for British patentees who are prevented from meeting foreign competition within the first four years.

Clause 16.—(6.) One judge may revoke any patent if the patentee insists on working his patent to the exclusion of his particular trade competitors and the latter can make out that their industry is "unfairly prejudiced" thereby; of course they can maintain this in every case where a patent is of any real value as a weapon of commercial competition. In the alternative, any trade competitor may demand a compulsory licence and thus compete with the inventor in exploiting the patent.

Clause 27.—There will be no appeal against the decision of the judge.

Clause 23.—(7.) Destruction of common law rights. The existing law already gives any party to a contract relief against conditions in restraint of trade, where the special circumstances of the case show such conditions to be unreasonable. The Bill will place patentees as a class under new disabilities which the legislature and the judges have refused to apply to any other class, except, perhaps, to bookmakers and moneylenders. For no patentee can make it a condition of using his patent that any other patent of his shall be used or even the most trifling article obtained from him, apart from the precisely limited exceptions allowed by the Bill.

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This itself is an intolerable interference with the freedom of contract, but the commercial value of patents will suffer indifferently to a still greater extent, for clause 23 will have the effect of forbidding any person selling a patented article or even any article in the production of which a patent has been employed at any stage, to stipulate in so selling that the buyer shall purchase any other article, whether patented or unpatented. Any such condition will be null and void, except in the two cases precisely circumscribed in the Bill.

Undoubtedly the entire community will find every dealing of daily commercial life endangered by this clause, but the patentee is also threatened with the loss of his patent, should any contract made by him be found to impose a condition of the kind described.

Not content with introducing an unwarrantable interference with the common law right of every British citizen to contract to the best of his judgment, the clause 23 will re-open a large number of existing contracts now in force, will cancel numerous valuable rights acquired in good faith and in reliance on the laws of the country, and will constitute an unprecedented destruction of vested interests. The grievance suffered by those affected will not be cured by such compensation as may be awarded by an arbitrator for cancelling the contracts, since pecuniary compensation within the limits of an arbitrator's discretion may, and often must, prove an entirely inadequate, if not illusory, remedy.

Clause 27.—(8.) There will be no right of appeal against the decision of the judge who may grant a compulsory licence or even refuse the grant of or revoke a patent. Patentees as a class are deprived of that right of appeal to the higher courts which is denied to no other litigant within the realm. On the other hand, the unsuccessful applicant for revocation will be free to take alternative proceedings ensuring to him the fullest right of appeal to the higher court.

Clause 24.—(9.) The Bill deliberately invites the infringement of patents by enacting that inadequate working by the patentee, the refusal of licences to trade competitors, or conditions which may be considered in restraint of trade, shall be a good defence in any action for infringement.

Clause 47.—(10.) The Bill is retrospective, and every patent granted, with every now existing contract concerning a patent, is subject to the hazards and disabilities introduced by the proposed measure.

The Association of British Patentees is convinced that the originators of the Bill were not aware that their measure must imperil the rights of every inventor, and those of every British manufacturer relying on the proprietary value of a patent, and venture to appeal, even at this late hour, to the judgment of those with whom the responsibility for the final form of the Bill now remains. For the Bill, in its present shape, constitutes one of the gravest dangers with which it would be possible to confront any British industry interested in the development of inventions and the protection of patent rights.

The subject here dealt with is of the utmost importance for the national welfare. Industrial progress, the advancement of trade and the economic efficiency of the nation are intimately bound up with the due reward of research and enterprise, and patents are the recognised and economically soundest and surest means to that end, and therefore the interference with patent rights contemplated by this Bill is a grave menace to British interests.

Continental Notes.

IN the *Chemiker-Zeitung* for July 31 and August 3, F. Wald discusses whether the stoechiometrical laws are comprehensible without the atomic hypothesis. His reasons for wishing to do without this fundamental theory are not easy to follow, and he himself complains that his papers in the *Zeitschrift für Physikalische Chemie* have attracted no attention, although that journal circulates among a public well up in mathematics.

The issue of July 31 also contains a paper by I. Schindelmeiser, on d-phellandrene in the oil of the *abies sibirica*, and another by S. Kohn, on the supervision of absorption towers. The latter is a theoretical paper, dealing mostly with methods of calculating the quantity of sulphurous acid that should be absorbed in successive towers at the end of a lead-chamber system.

H. Bollenbach describes a method for the determination of chromium by means of potassium permanganate. He has found that in hot acid solution chromic salts are quantitatively oxidised by permanganate to chromic acid. Full directions are given for carrying out the determination, and also a number of results, which show that a high degree of accuracy can be attained.

In the issue of August 3 is a paper by H. Kinder, on the metallography of alloys of iron and carbon. He briefly describes the modern views as to the compounds and mixtures that are present in ordinary irons and steels, and illustrates his remarks with diagrams and reproductions of microphotographs. The constituents that are considered are the three allotropic modifications of pure iron, α β and γ-ferrite, the two modifications of carbon, graphite and amorphous temper-carbon, and finally the carbide, cementite, Fe_3C. Amongst the microphotographs are some of perlite, the eutectic mixture of ferrite and cementite; and martensite, a solution of cementite in ferrite, which is obtained by rapidly cooling the iron from a temperature above 900° C.

There is also a description of a new pattern of fan—the "double Blackman," for which the advantage is claimed that it drives the air in the centre, as well as it does at its circumference.

An announcement which appears in the *Chemische Industrie* for July 15, will perhaps be read with interest by English manufacturers. It is as follows:—"From a well-informed source we have received confidential communications as to (1) the the extraction of sulphur in the State of Louisiana; (2) an opportunity of disposing of various chemicals in India; (3) addresses of importers and agents in Malaga." This confidential information will, of course, only be given to the members of the "Society for the Protection of the Chemical Industry of Germany."

In the same number there are extracts from the annual report of the factory inspector of Baden, and these deal largely with the disease known as "chloracne," which attacks workers in bleach works, whether the chlorine is produced by the electrolytic or other process. In electrolytic works the men who are affected are those who have to take out the exhausted cells, clean out the sludge, and replace them. In the Hargreaves process it is the men who have to clean out the towers in which the hydrochloric acid is absorbed in water, or in which the chlorine is driven out by means of sulphur dioxide. The most prominent symptom is the formation of small but painful swellings, sometimes accompanied by general inflammation of the skin. The exact cause of the trouble has not been established but it has been found that the effects can be prevented, or at any rate moderated, by cleanliness and care. By insisting on baths and special clothing it has been possible to greatly reduce the number of cases of disease. The action appears to be purely an external one, produced by some vapour or gas which directly attacks the skin, as is shown by the fact that it is principally the uncovered parts of the body which are affected, and especially where they are subjected to the friction of the clothes. Moreover, there are far more cases in the summer, when the clothing is lighter and is often worn open, than in the winter. There is, however, a general agreement that chlorine itself cannot be the cause of the trouble. Apparently a gaseous chlorinated product is formed, or at any rate a volatile one, and this is deposited with the sludge. There have been fewer cases since the precaution has been taken of allowing the plant to cool before opening it, and by washing it down well with water. Other measures of safety that should be adopted are that the workers should wear washable overalls fitting closely at the neck and ankles. Friction should be prevented by inserting wadding. The hands should be protected with impermeable gloves, and the head with a cap, the head and neck with a layer of vaseline. The face should not be touched during the work, and as soon as it is over the man should have a bath. The clothes should be washed before they are used again. Finally, the time during which the dangerous work is carried on should be cut as short as possible.

Two reports by Professors Jacobi and His respectively, upon a case of poisoning by the fumes of incompletely exploded dynamite, are given in the *Zeitschrift für das gesamte Schiess- und Sprengstoff-wesen*, for July 15. A partial misfire having occurred in a mine, a workman went up to the spot, and although he noticed a peculiar sweet taste in the air, continued to work there for some time, until he was compelled to go away by the sickly feeling experienced. He was taken ill, but nevertheless attempted to recommence work next day. He was obliged, however, to go into the hospital; he almost entirely lost his voice, and was eventually found to be permanently unfitted for work. The injury appears to have been caused by vaporised nitroglycerine. Recommendations are made for the better ventilation of mines and the prevention of workers from approaching the working face after a misfire until a considerable time has elapsed.

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Analytical Notes.

THE CONSTITUTION OF AMMONIACAL LIQUORS.*

(*Continued from p.* 149.)

MR. LINDER'S MEMORANDUM.

THE methods employed in this laboratory for the analysis of ammoniacal liquors will be found in Annual Reports, 1903 (pp. 31-39) and 1905 (pp. 26-31). Procedure, generally, remains the same, but it is found better to replace the stoppered bottles employed for estimation of carbonic acid by flasks fitted with Bunsen rubber valves, to minimise the risk of fracture in the water bath, and enable procedure to correspond more closely with that approved by Fresenius. In addition to this and other minor changes, the method for estimation of thiocyanate, described in Report 1905, p. 28, has undergone complete revision. As there described, the thiocyanate was separated from the cold boiled liquor by means of copper sulphate and acid sulphite (at 30° C.), the cuprous thiocyanate being subsequently oxidised to cupric salt by evaporation to dryness with nitric acid and the copper determined volumetrically by means of potassium iodide and $\frac{N}{10}$ thiosulphate.

Precipitation in the cold† was adopted to obviate the contamination of the cuprous thiocyanate by copper sulphide—one of the decomposition products of copper thiosulphate at boiling temperature—and to minimise the separation of other insoluble copper compounds, which discolour the thiocyanate and vitiate results. The precautions adopted were generally successful in ensuring the separation of a cuprous thiocyanate of unquestioned purity, but, in certain exceptional cases, the procedure entirely failed in its object: the cuprous salt was brown in colour, and the weight of thiocyanate deduced by calculation from the copper obtained was far in excess of that reached by other and more reliable procedure. The method was therefore subjected during the present year to critical revision, and was finally replaced by that now to be described.‡

Estimation of Thiocyanate by Silver Nitrate Method.—This method is based upon the well-known fact that when cuprous thiocyanate is digested with excess of alkali, copper oxide and alkaline thiocyanate are formed; associated copper sulphide and other impurities are not affected by this treatment, and digestion with excess of alkali followed by filtration affords, therefore, a simple method of obtaining the thiocyanate in a condition suitable for exact titration with $\frac{N}{10}$ $AgNO_3$ after addition of nitric acid and iron alum. Caustic alkalies are usually employed to decompose the cuprous salt, but sodium carbonate¶ appears to be equally effective for this purpose if the amount of thiocyanate be small (under 0.1 gram HCyS); for larger amounts caustic alkali must be employed.

With coke oven liquors—which contain but little thiocyanate—the following procedure is found to give the best results; with gasworks liquors the amounts of the various reagents would be the readjustment, and the sodium carbonate should be replaced by caustic soda or potash.

A.—*Ferrocyanide absent.* If qualitative test (ferric chloride to acidified boiled liquor and warming) indicates that ferrocynaide is absent, add to 50 c.c. of the boiled liquor acid sulphite of soda followed by copper sulphate in distinct excess; boil from one to two minutes, filter, and wash the dark brown precipitate three times with boiling water (the filtrate should then remain colourless on addition of a drop of dilute ferrocyanide). Wash back the precipitate into the glass, add 25 c.c. of a 3% solution of sodium carbonate and boil for two minutes, filter (using the same paper§), wash three times with boiling water, cool, acidify with 5 c.c. of nitric acid free from oxides, and titrate on $\frac{N}{10}$ $AgNO_3$, 1 c.c. of saturated iron alum being added as indicator—

1 c.c. $\frac{N}{10}$ $AgNO_3$ = ·0076 grams NH_4CyS = ·0027 grams HCy.

The titration is made more exact if the silver nitrate be added in slight excess and the solution brought back with $\frac{N}{10}$ NH_4CyS. Care must be taken to ensure absence of chloride from all the solutions employed.

B.—*Ferrocyanide present.* To remove the ferrocyanide, add to the hot solution (90-95° C.) iron alum in sufficient excess to render the solution strongly red (ferric thiocyanate); after standing two minutes to allow the Prussian blue and hydrated oxide to separate, filter and proceed as in A. The solution need not be cooled before addition of the reducer and copper salt.

Special tests showed that no appreciable amount of thiocyanate is generated on boiling ammoniacal liquor containing cyanide and sulphide to remove those bodies. As regards errors due to solubility of cuprous thiocyanate in acid sulphite, and to the presence of sodium salts in the silver titration, the resultant effect of these disturbing factors is best determined by a "back test" on solution made up to contain given amounts of thiocyanate and thiosulphate—it should not exceed 0.5 milligram of thiocyanate calculated as hydrocyanic acid (HCy). Thus,

Organic matter absent:—

Solution A:—

Taken—Thiosulphate as sulphur	.0130 grams.
Thiocyanate, as hydrocyanic acid.	.0267 ,,
Found—(*a*) Thiocyanate	.0266 ,,

Equally satisfactory results were obtained in the same analysis when caustic potash was used in place of sodium carbonate:—

Thus:—

(*b*) Thiocyanate, as hydrocyanic acid found:—

(i) Cuprous thiocyanate extracted with 25 c.c. $\frac{N}{2}$ KHO at 100° C. .0267 gram.

(ii) Cuprous thiocyanate extracted with 25 c.c. $\frac{N}{2}$ KHO at 40° C. .0266 gram.

The alkali may be replaced by iron alum, which converts cuprous thiocyanate into copper sulphate and ferric thiocyanate and oxidises the copper sulphide:—

Thus:—

(*c*) Cuprous thiocyanate extracted by boiling thrice with 5 c.c. of saturated iron alum and decanting each time.. .. .. .0265 gram.

Solution B:—

Taken—Thiosulphate, as sulphur	.0640 gram.
Thiocyanate, as hydrocyanic acid	.0534 ,,

Found, Thiocyanate:—

(*a*) Cuprous salt digested 5 mins. at 40° C. with 50 c.c. $\frac{N}{2}$ KHO .. .. .. .0530 ,,

(*b*) Cuprous salt digested 20 mins. at 40° C. with 50 c.c. $\frac{N}{2}$ KHO .. .. .. .0529 ,,

Organic matter present:—

The following is cited in illustration of the result obtained with coke-oven liquors:—

Coke-oven liquor A:—

Thiocyanate found, calculated as hydrocyanic acid, grams per 100 c.c.:—

(*a*) Cuprous salt extracted with 25 c.c. $\frac{N}{2}$ Na_2CO_3 (1) .0175 (2) .0173 } mean .0174

(*b*) ,, ,, ,, ,, iron alum boiling .0174.

(*c*) Analysis by Mr. E. M. Fletcher, after one day's exposure to air (some thiocyanate formed by oxidation) .0189.

Coke-oven liquor B:—

Liquor highly charged with phenoloid bodies. No satisfactory precipitate could be obtained in the cold, the cuprous salt separating in a brown, semi-colloidal condition.

Thiocyanate found, as hydrocyanic acid, grams per 100 c.c.:

* From the 43rd Annual Report on Alkali, etc., Works, by the Chief Inspector.

† S. Dyson (*Jour. Soc. Chem. Ind.*, 1883, pp. 229-231) sought to remove organic matter and thiosulphate by evaporating the liquor on the water bath to dryness, heating in air oven, and extracting the residue with absolute alcohol. This procedure was shown in 1902 (Report 1902, p. 72) to lead to considerable loss of thiocyanate; indeed the method in Dyson's own hands yielded results which differed on the same liquor by as much as ·017 gram of ammonium thiocyanate per 100 cc. It is a matter for regret, therefore, that Dyson's procedure should continue to receive mention in technical handbooks as a standard method suitable for general use.

‡ Since the completion of this investigation, it has been ascertained that similar procedure has been independently worked out and applied in substantially the same way by other chemists for the estimation of thiocyanate in other liquors. The method in their hands has yielded results as trustworthy as those obtained in this laboratory, and one is justified, therefore, in recommending the procedure as entirely satisfactory in respect both of accuracy and despatch.

¶ The use of sodium carbonate for this purpose was suggested to me by Mr. J. W. Young as being more easily obtained free from chloride. Mr. Young further informs me that he has found potassium metasulphite ($K_2S_2O_5$) as sold in crystals for photographic use, an excellent reducer in place of acid sulphite of soda or potash.

§ This procedure ensures solution of the traces of cuprous thiocyanate remaining on the paper; it is simpler and more rapid than spreading the paper out on a clock glass and warming with alkali.

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Cuprous salt extracted with 25 c.c. of 3% sodium carbonate—

(1) .0193.
(2) .0190.

Having thus established the accuracy of the Silver Nitrate method of estimating thiocyanate in presence of thiosulphate, it became of interest to compare the results obtained by this procedure with those afforded by the older method of oxidation of cuprous salt by nitric acid, p. 39 *ante*, with a view of determining the limits of accuracy of the latter.

Silver Nitrate and Nitric acid Methods compared :—

Coke-oven liquor C :—

A well-separated liquor; cuprous salt obtained by cold precipitation (Nitric Acid method), slightly discoloured :

Thiocyanate found, as hydrocyanic acid, grams per 100 c.c. :—

(*a*) Silver nitrate method	.022
(*b*) Nitric acid method	.024
Error due to separation of copper precipitate other than thiocyanate ..	+.002

Coke-oven liquor C :—

Liquor not well separated : cuprous salt, obtained by cold precipitation, dark brown :—

Thiocyanate found, as hydrocyanic acid, grams per 100 c.c. :—

(*a*) Silver nitrate method ..	(1) .0140 (2) .0138	mean .0139
(*b*) Nitric acid method	.0307	

The difference between the results yielded by the two methods (+ .0168 gram) is clearly due to contamination of the cuprous thiocyanate obtained in the cold with brown insoluble copper bodies of organic (or inorganic) origin, and not to any increased solubility of cuprous thiocyanate in the *hot* liquid, as analysis shows that it is immaterial whether the precipitation be made cold or hot so long as the cuprous thiocyanate is converted into alkaline thiocyanate and titrated on silver nitrate.

Thus :—

Thiocyanate by silver nitrate method as hydrocyanic acid, grams per 100 c.c. :—

(*a*) Precipitated cold	.0139
(*b*) Precipitated hot	.0139

These results prove conclusively that the silver nitrate method is the more reliable and accurate. It is also more speedy : analysis of a sample of boiled liquor for thiocyanate can by this method be completed within 35 minutes; by the Nitric acid method it would take 2½ to 3 hours.

Colorimetric methods for estimation of thiocyanate.—Pfeiffer has devised a colorimetric method for the analysis of ammoniacal liquors which is considered by Bertelsmann ("Die Technologie der Cyanverbindungen," p. 176, published in 1906) to give reliable and accurate results :—

Ten c.c. of the liquor are treated with 10 c.c. of a solution of 6% ferric chloride in 10% hydrochloric acid, filtered, thoroughly washed, and the filtrate diluted to 500 c.c. 100 c.c. of the dilute, red solution (= 2 c.c. of original liquor) are brought into a glass cylinder 3 cm. wide and about 22 cm. high; the colour is then matched with $\frac{N}{100}$ NH_4CyS solution in the usual way. If the depth of colour be too great for accurate comparison, less concentrated solutions must be employed.

Mr. J. W. Young, during the present year, has devised independently a colorimetric method for direct application to the boiled liquor. He has applied it for the analysis of coke-oven liquors with excellent results.

He writes :—

"Thiocyanic acid may in many cases be accurately determined in coke-oven liquors colorimetrically by boiling off all volatile compounds and diluting to 100 times the original volume. The colour struck by addition of nitric acid and iron alum is then matched in Nessler test glasses in the usual way against a weak standard solution of ammonium thiocyanate. A convenient depth of tint to work to is that afforded by 1 c.c. of $\frac{N}{1000}$ NH_4CyS in a 100 c.c. test glass. In cases where a determination of fixed ammonia has been made, the residue remaining in the distilling flask may be employed equally as well as freshly boiled liquor. Such a colour test can be made and remade in 15 minutes.

The following are typical examples :—

	By silver nitrate method.	By colour test.
No. 1. Coke-oven liquor ..	0.0149	0.0153
No. 2. „ „	0.0124	0.0129

Mr. Young's method has been tested in the laboratory against the Silver Nitrate method on three coke-oven liquors, with excellent results.

In cases where it is desirable to remove ferrocyanides, or to clarify the liquor, an addition of a few c.c. of saturated iron alum to the hot solution will be found effective. The excess of iron separates as hydrate and can readily be filtered off from the ferric thiocyanate together with Prussian blue and associated impurities. The thiocyanate can then be estimated colorimetrically in the filtrate in the way described above, after addition of nitric acid and iron alum (*see also* p. 47).

In closing these analytical notes, I desire to record my grateful thanks to Dr. Harold Colman and to Messrs. R. H. Clayton and G. W. F. Holroyd, for information concerning the methods employed by them for analysis of thiocyanate liquors by the silver nitrate method.

Composition of Saturator Gases.

The theoretical composition of the gaseous mixture leaving the saturator, in respect of the three constituent permanent gases CO_2, H_2S, and HCy, may be readily calculated from data afforded by an analysis of the liquor distilled, if we assume that the whole of the carbonic acid, sulphide, and cyanide (HCy) are evolved in the still and pass unchanged through the saturator. Experiment showed (*see* Report, 1903, p. 60, Leicester Corporation), (cyanide absent from liquor) that such an assumption was justified as regards the carbonic acid and sulphide.

Thus (residual nitrogen allowed for by calculation) :—

	In Saturator Gases, cold, per 100 vols.	
	CO_2 + N.	H_2S.
Calculated from average sample of liquor (3 days).	81.9	18.1
Found by Bunte burette (3 days) ..	81.6	18.4

At that date, however, no rapid and accurate method was available for estimation of volatile cyanide (HCy) in ammoniacal liquors, and the proportion of this constituent in the saturator gases was not considered. In 1904 and 1905 the accuracy of Feld's distillation method for estimation of hydrocyanic acid in liquors of every description was fully established (*see* Report, 1904, p. 28; 1905, p. 27), and it proved possible for the first time to arrive by calculation at the theoretical composition of the permanent gases CO_2, H_2S, and HCy evolved in distillation.

The results proved of unusual interest. It was found, generally, that the classification of liquors in respect of the proportion of HCy in the saturator gases correspond very closely with that based on the source of origin :—

	HCy in Saturator Gases per 100 Vols.
1. Coke-oven works, average of 9 liquors (1905)	5.5
„ „ average of 30 liquors (1906)	4.2
2. Gas works, average of 6 liquors (1905) ..	1.6
3. Iron works and shale works	Nil.

Such differences cannot be attributed to the fact that the liquors are of different strength, as the composition of the gases yielded on distillation is determined by the *relative*, not by the *absolute*, amounts of the carbonic acid, sulphide, and cyanide present in the liquor.

Differences of composition equally remarkable are apparent if one considers the figures for distribution of cyanogen compounds—thiocyanate, ferrocyanide, and cyanide (Table I., p. 46, Report 1905) and of sulphur compounds (*Ibid.*, Table H, p. 46). It was shown (*Ibid.*, pp. 30, 31) that the lower proportions of volatile cyanide and sulphide in gas-works liquors, compared with those in liquors from coke-oven sources must be attributed in great measure to the fact that ammoniacal liquors are peculiarly liable to be altered in character by contact with air—the oxidation products of volatile cyanide and sulphide of ammonia being the fixed ammonium salts—thiocyanate and thiosulphate. In gas works, where ample storage room is usually provided, conditions specially favour such reactions, while in coke-oven works the liquors are practically distilled as made.

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In certain coke-oven works, where oven conditions were specially favourable for high yield of volatile cyanide, analysis showed that the liquor would yield saturator gases containing by theory as much as 17 to 18 parts by volume of hydrocyanic acid, per 100 volumes of permanent gases (Report 1905, Table B, p. 35). These figures were so striking as to be received with incredulity by certain manufacturers, who asked for confirmatory proof by direct analysis of the gases. Research was therefore undertaken, during the present year, to determine the extent, if any, to which sulphide and cyanide interact in the still under working conditions, and to devise methods for the direct analysis of the gases evolved. The results of this investigation are summarised below :—

Interaction of sulphide and cyanide when ammoniacal liquors are distilled. It is a well-known fact that ammonium polysulphide and ammonium cyanide interact in solution to form ammonium thiocyanate and ammonium sulphide—

$$(NH_4)_2S.S + NH_4Cy = (NH_4)_2S + NH_4CyS.$$

Polysulphide and cyanide are therefore mutually exclusive from the same liquor ; ammonium sulphide and cyanide, on the other hand, often coexist, and it becomes necessary, therefore, to determine whether these bodies react upon one another under distillation conditions—air excluded.* For this end, mixtures of sulphide and cyanide were distilled together, the evolved hydrocyanic acid absorbed in caustic soda, and its amount determined by titration on silver nitrate, after removal of the associated sulphide by carbonate of lead. Results proved conclusively that no appreciable formation of thiocyanate takes place, even when the liquor is boiled off into the open air, and further that the whole of the cyanide taken is recovered in the receiver, even when the evolved gases are made to pass through boiling sulphuric acid (13%), as in saturator working.

Thus :—

1. Action of H_2S on HCy in boiling solution (ammonia absent).

100 c.c. of solution containing the free acids distilled into half-normal caustic soda, a Liebig's condenser being interposed to condense the accompanying steam (as in Feld's method—Report 1905, p. 27)—

Taken H_2S	.0150 gram
HCy —	.0278 ,,
Recovered HCy	.0275 ,,

2. Action of $(NH_4)_2S$ on NH_4Cy in boiling solution.

100 c.c. of solution containing the freshly prepared ammonium salts distilled as above—

Taken ammonium sulphide as H_2S	.0150 gram
ammonium cyanide, as HCy ..	.0283 ..
Recovered ammonium cyanide, as HCy ..	.0289 ,,

3. $(NH_4)_2S$ and NH_4Cy boiled off together, and evolved gases passed through boiling 13% sulphuric acid.

This experiment was devised to imitate conditions existing in actual sulphate making. Two distillation flasks were employed in sequence, the first contained 100 c.c. of a solution of ammonium cyanide and sulphide of determined strength, the second 250 c.c. of 13% sulphuric acid. Connections were so arranged that the ammoniacal gases from No. 1 flask were delivered beneath the surface of the acid in No. 2, as in saturator working ; Liebeg's condenser and alkaline receiver were attached as above. In conducting an experiment, the acid in No. 2 flask was first boiled to expel air from the forward part of the apparatus, the contents of No. 1 flask were then distilled into the boiling acid for 20 to 25 minutes to completely expel the ammoniacal compounds and cyanide in the receiver determined as before.

At the end of the distillation thiocyanite was found to be absent from the residual liquor in No. 1 flask, proving that no interaction had occurred between ammonium cyanide and sulphide.

The whole of the cyanide taken was recovered in the receiver.

Thus :—

Taken $(NH_4)_2S$, as H_2S	.0150 gram
NH_4Cy, as HCy	.0283 ,,
Recovered NH_4Cy, ...	.0290 ,,

These results afforded strong presumptive evidence that when ammoniacal liquors are distilled the saturator gases would be found to contain CO_2, H_2S, and HCy in the proportions in which they exist in the liquor, the whole of the cyanide (HCy) thus being volatilised from the still.

(To be continued.)

* The formation of thiocyanate from interaction of cyanide and sulphide in liquors stored in limited contact with air was fully discussed in Report 1905 p. 31.

IMPORTS OF METALS AND MINERALS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of metals and minerals imported during the month of July, 1907, as compared with July, 1906 :—

ARTICLES.	QUANTITIES. Month of July. 1907.	QUANTITIES. Month of July. 1906.	VALUE. Month of July. 1907.	VALUE. Month of July. 1906.
			£	£
Copper (regulus and precipitate) :				
From Germany ..Tons	11	8	462	240
,, Portugal .. ,,	529	140	20,433	4,774
,, Spain .... ,,	1,087	511	96,694	24,568
,, U.S.A. .... ,,	262	1,134	9,635	35,161
,, Peru .... ,,	671	53	22,067	1,110
,, Chile .... ,,	228	745	8,510	24,448
,, Other Countries . ,,	4,826	3,195	216,213	115,227
Total .. ,,	7,614	5,786	374,614	205,528
Copper Ore :				
From Spain ....Tons	737	1,352	7,730	4,572
,, U.S.A. .... ,,	6	—	23	—
,, Chile .... ,,	5,127	2,222	59,216	25,319
,, Cape of G. Hope .... ,,	1,459	1,710	37,260	26,807
,, Australia .. ,,	975	62	21,242	840
,, Newfoundland .... ,,	—	—	—	—
,, Other Countries . ,,	2,330	2,386	36,471	29,389
Total .. ,,	10,634	7,732	161,942	86,927
Pyrites of Iron and Copper .....Tons	49,207	65,567	77,189	110,256
*Silver Ore .. Value £.	—	—	156,509	194,204
Tin Ore :				
From S.America, Tons	1,614	1,374	156,310	92,798
,, Other Countries . ,,	291	167	23,932	13,420
Total .. ,,	1,905	1,541	180,242	106,218
Lead (pig and sheet) :				
From Germany ..Tons	50	1,417	1,009	23,385
,, Spain .... ,,	9,372	11,458	188,123	186,172
,, Greece .... ,,	—	—	—	—
,, U.S.A. .... ,,	4,579	1,807	92,916	30,055
,, Australia ... ,,	2,629	5,313	49,322	85,861
,, Other Countries . ,,	1,772	72	35,006	1,170
Total .. ,,	18,402	20,067	366,376	326,643
Quicksilver .....Lbs.	41,400	824,930	3,613	79,015
Tin, in blocks, ingots, bars, or slabs :				
†From Straits Settlements .....Tons	3,341	2,593	629,504	441,564
,, Australia ... ,,	459	396	86,668	67,857
,, Other Countries . ,,	124	279	21,169	42,817
Total .. ,,	3,924	3,268	737,341	552,238
Zinc, crude, in cakesTons	7,880	8,222	202,805	209,828

* Silver Ore includes the value of the Silver in imported Argentiferous Ores and Metals. † Including Federated Malay States.

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THE CONSTITUTION OF THE ATOM.

IN opening a discussion in the Mathematical and Physical Science Section of the British Association, at Leicester, Professor Rutherford said that it was only in the last decade that experimental methods had thrown light upon the interesting questions connected with the constitution of the atom. In a short historical summary he contrasted the Daltonian theory with the views held to-day, which regarded the chemical atom as the smallest unit that came into combination, but not the smallest unit that could exist. Chemical theory was not in any way disturbed by recent discussion, but rather strengthened by the experimental work that had been accomplished. Faraday had shown that the passage of electricity through solutions was due to the charge carried on ions. Helmholtz had carried the theory further, and his work was taken advantage of by Larmor, who developed the general theory of atomic constitution. The atom was an electrical structure possessed of positive and negative charged parts arranged within the structure. From the purely experimental side Professor J. J. Thomson showed that the cathode ray particles were in reality negatively charged particles travelling at very great speed, and that the particles consisted of very small quantities compared with the hydrogen atom, perhaps the one-thousandth part of the hydrogen atom. These small particles have been obtained in various ways, and each new experiment had confirmed their real existence. Kaufmann had provided additional confirmation of the fact that electricity was atomic in structure, and shown how the diameter of the small spheres over which there was a surface distribution of electricity might be calculated. The effective action of the electron was confined to small distances, perhaps ten times its diameter. The electron might be a state of strain in the ether, but its existence had been definitely proved by producing it in various ways, and must be regarded as a well-ascertained fact. Various attempts had been made to construct models of atoms. Lord Kelvin had suggested that the atom consisted of a number of spheres immersed in a sphere of positive electricity, and the suggestion had been developed by Professor Thomson, who regarded the atom as a sphere of positive electrification, and suggested the possibility that the electrons were arranged in rings, which were temporarily stable. In this view negative electricity was carried by the electron. Positive electricity might be regarded as a kind of cement holding the atom together. The electron was the active constituent in the atom. All attempts to show that the positive electricity was carried in the same way as the negative had failed. The positive electron could not be said to have been isolated.

Sir Oliver Lodge said he was prepared to champion the electric theory of matter, regarding it as a working hypothesis of the most valuable kind in providing a guide to experiment; and he trusted that it would long continue to hold the field and to stimulate the work of many explorers. He must regret that the theory had not won the full appreciation of Lord Kelvin, who had of late shown a tendency to destroy his own children. In any theory of matter it was necessary to explain mass or inertia, radiating power, instability, periodic weight, peculiarity of spectrum, and the Zeeman effect. Inertia could be explained electrically; an electric discharge was analogous to inertia and satisfactorily explained some difficulties. Radiation, again, was equally capable of explanation. An electric charge when accelerated must radiate, and that was the way in which ether could be thrown into waves. A compressible or dilatable ether was required, and herein lay a difficulty. Ether was not subject to gravitation, but was the vehicle for gravitation. Instability would arise if an atom were a revolving assemblage of corpuscles. If accelerated towards the centre there must be a loss of energy; there was a dissipative term in the equations, indicating that the electrons tended to become unstable. With regard to the positive charge, there was a difficulty. The positive electron might have no existence, but there must be a positive charge. Here there was grand opportunity for further investigation.

Sir W. Ramsay paid a tribute to the great physicists who had thrown so much light on these recondite matters, but as a chemist he was more interested in the proximate than the ultimate construction of the atom. Hydrogen was an element, but it might be more exact to regard it as an element connected with an electron, and he had a difficulty in disposing of this electron when forming a molecule. The behaviour of nickel in experiments which induced radio-activity on the surface offered some difficulties.

Mr. Soddy emphasised the distinction that had been drawn between speculations on the constitution of the atom and recent experiments achieved in radio-activity, and agreed with Sir W. Ramsay that the immediate interest of the chemist had reference to the proximate construction of the atom.

Professor Larmor pointed out that he had no theory to support, but he wished to assert the right of physicists to discuss the constitution of the atom. He wished to make it clear that radio-activity was not the only cause which had led to the discussion of these matters. Without the results of radio-activity the problem would be in the same position. Radio-activity only gave new material for support and confirmation. The science of electricity had developed, and the results, corroborated by optics and the connection between electricity and optics, had placed the molecular theory in its present position. Radio-activity had simply offered more facts to fit into an old theory. Helmholtz had emphasised modern views, but Faraday was the discoverer of the idea of the electron by his work on electrolysis. Lord Kelvin and Clerk Maxwell had given completeness to the ideas of Faraday, especially the latter, who formulated ideas which, perhaps, Lord Kelvin shrank from expressing. Maxwell had had the courage to lay the foundation of molecular and electrical science. He had wanted to postulate electrons, but could not fix them into his scheme. The difficulties felt to-day were felt by him. He knew that the electric theory accounted for both reflection and dispersion, but the method of propagation of molecules in fixed substances required further experiment before being ripe for treatment.

Lord Kelvin repeated his remarks of the previous day on the work done between different portions of matter when the distance between the particles was indefinitely small. Whatever new light had been thrown by radium and recent experiment on the origin of matter and the electric theory, the old foundations of science remained. He differed from the views of Professor J. J. Thomson in his theory of rings of electrons, and asserted that energy in the atom must be of the static type.

Sir William Ramsay, in a paper on the variability in the products resulting from changes in radium emanation, described a series of experiments suggested by the behaviour of radium in decomposing water. A small excess of hydrogen was produced in this case whose presence was difficult to explain. To pursue the inquiry copper compounds were substituted for water. In operating on copper sulphate the residue was found to give a spectrum of sodium, which was not surprising, but lithium was detected, the presence of which could not be explained. Further experiment was made, using pure electrolytic copper, and every care was taken to test for lithium, but after the experiment lithium was still found. Nitrate of copper was employed with all care, to avoid impurities, and after exposure to the emanation lithium was again detected. In another experiment the emanation was left out, and no lithium was detected. Again, when the emanation was dissolved in water and no copper salt used, the result was to give, not helium, but neon, in considerable quantities. The spectrum showed some lines in the green which might indicate new elements. The real difficulty was to explain why water gave neon and not helium. It might be suggested, as a working hypothesis, that the emanation was possessed of enormous energy, and according to the amount of energy used different products might be produced.

WILL.—The late Mr. Frederick Herbert Gossage, J.P., head of the firm of William Gossage and Sons, Ltd., soap makers, Widnes, left estate of the gross value of £720,041., including £709,396. net personalty.

THE SWEDISH BEET-SUGAR INDUSTRY.—The *Manchester Guardian* says:—"The report that the whole of the Swedish sugar works are to be combined in the form of a limited liability company serves to draw attention to the growth of this industry in Sweden. In 1889 there were six concerns interested in the manufacture of sugar, the total output being 6,750 tons, and the amount imported into the country 40,500 tons. At the present time there are 21 sugar works, the importation of sugar has practically ceased, and although Sweden only takes the seventh position amongst beet-sugar producing countries it is probable that she will shortly be in a position to enter the foreign markets. In 1900 the production was 81,300 tons; in 1901, 115,500 tons; 1902, 127,000 tons; 1903, 73,100 tons; 1904, 107,300 tons; 1905, 84,100 tons; 1906, 122,400 tons; for 1907 it is estimated at 157,700 tons. The fluctuations are due chiefly to variations in the harvest, and are observable in the statistics of all sugar-producing countries. The land in Central and Southern Sweden is admirably adapted for the cultivation of beetroot."

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Parliamentary Jottings.

HOUSE OF COMMONS.

Wednesday, August 21.

LEAD POISONING.

In answer to Mr. Alden, Mr. Gladstone said that twelve cases of lead poisoning in the china and earthenware industry were reported to the Home Office in July. This was above the average monthly number of cases, but the total for the first seven months of the year was considerably below the number for the corresponding months of 1906. The whole question of lead poisoning, both in the Potteries and in other trades, was under his consideration.

BRITISH COMMERCIAL ATTACHES.

Mr. Runciman, replying to Mr. Lonsdale, said the recommendations of Sir Eldon Gorst and Mr. Llewellyn Smith, in their report on the system of British commercial attachés and commercial agents, had been adopted, and the new system came into force in July last.

EMPLOYERS' LIABILITY BILL.

The Employers' Liability (Insurance Companies) Bill, as amended by the Standing Committee, was next considered.

On an amendment moved by Mr. Claude Hay with the object of preventing "the springing up of mushroom insurance companies," Mr. Kearley (Parliamentary Secretary, Board of Trade), while quite sympathising with this design, pointed out that the amendment would have the effect of stifling mutual societies which were in no way suspect.

After some further discussion the amendment was withdrawn.

The report stage was concluded, and the Bill read a third time.

THE COMPANIES BILL.

On consideration of the Companies Bill as amended, Mr. Bottomley moved the following new clause:—"If any person or persons trade or carry on business under any name of title of which 'limited' is the last word, such person or persons shall, unless duly incorporated with limited liability, be liable to a penalty not exceeding £5. for every day upon which such name or title has been used."

Mr. Lloyd-George accepted the clause, and it was read a second time and added to the Bill.

Mr. Fell moved a new clause authorising a company which had carried on business for more than two years to issue new capital at a discount.—Mr. Hills seconded the motion.—Mr. Lloyd-George said that he could not agree to the proposal. There was very considerable opposition to it in the City, where financial authorities agreed it would be dangerous, as being likely to encourage gambling. If there was a bona-fide desire to save a company it could be done under the Act of 1900.—The clause was negatived without a division.

An amendment moved by Mr. Markham, requiring that where a company does not issue a prospectus each director shall sign the statement filed with the Registrar, was accepted by Mr. Lloyd-George and agreed to.

Mr. Fell proposed that the sum stated in the prospectus as the minimum amount on which the directors would proceed to allotment should require to be "not less than one quarter of the amount offered for subscription."

Mr. Lloyd-George did not think the amendment would afford any real security to investors, though it might delude them into the belief that they were protected by a statutory security. A prospectus had to state the minimum subscription upon which the directors would proceed to allotment, and if a purely nominal figure were given, people who invested were fools whom it was impossible to protect.—The amendment was negatived without a division.

On Clause 24 an amendment, moved by Mr. Robert Balfour, was accepted by Mr. Lloyd-George and inserted, providing that "any company which is a member of another company may, by minute of the directors, authorise any of its officials or any other person to act as its representative at any meeting of the latter company, and such representative shall be entitled to exercise the same functions on behalf of the company which he represents as if he had been an individual shareholder."

Mr. Hills moved the omission of Section 32, which gives power to the Court to grant relief to a director who may be personally liable for breach of duty if this has been caused by honest oversight, inadvertence, or error of judgment. He objected to any extension of the present law, which afforded a director sufficient immunity for innocent mistake. He reminded the House of the heavy losses suffered by shareholders through men who were wholly incompetent taking directorships and drawing considerable fees.

Mr. Lloyd-George pointed out that in many companies certain men were put on the board for special reasons, and because they had special technical knowledge of the business of the company. They confined their energies to one department, and it would be very unfair to make them liable for some financial blunder for which they were not responsible. He was not in favour of protecting directors who grossly neglected their duty, but he thought they ought to take care not to frighten away the best class of business men. He admitted that he did not quite like Sub-section 1 of the clause, because he thought the words were too wide. Honest directors would be amply protected by Sub-section 2, and if the House would assent to that course he was prepared to omit the first sub-section.—Mr. Lloyd-George's proposal was agreed to, and Sub-section 1 was struck out of the clause, and Sub-section 2 allowed to stand. This sub-section provides that relief may be granted in any proceeding against a director.

On Clause 37, which defined a "private company," an amendment by Mr. Lloyd-George was agreed to, providing that for the purposes of the Act the expression "private company" means a company which, by its articles, restricts the right to transfer its shares and limits the numbers of its members (exclusive of persons who are in the employment of the company) to fifty, and prohibits any invitation to the public to subscribe for any shares or debentures of the company.

An amendment by Mr. Rawlinson to the same clause, providing that wherever in the Companies Act a minimum of seven members is required, only two members shall be required in the case of a private company, was also accepted and agreed to.

The report stage was then concluded, and the Bill read a third time.

New Platinum Discoveries in Russia in Asia.—It is stated that platinum has been found in several new places in the Northern Urals, particularly in the neighbourhood of the Hasarieff and Schouvaloff Estates. These deposits are quite near the surface. The most striking find, according to *Torgovo Promysshlennaya Gazeta*, has been made near Artuisk, a district hitherto unknown to the either platiniferous or auriferous. The report also states that efforts are again being made on the Ekaterinburg market to raise the price of platinum.

Obituary.—The death took place recently of *Dr. John Clark* Ph. D., F.I.C., the President of the Society of Public Analysts. *The Analyst* says:—Dr. Clark was born in 1844, being the only son of John Clark, a well-known practitioner in mercantile law in the city of Glasgow. He received his education in the "humanities" at Glasgow University, and, having a taste for chemistry, became a pupil in the well-known laboratory of the late Dr. Penny. He subsequently proceeded to the University of Göttingen, where he worked with Fittig and Wöhler, gaining the degree of Doctor of Philosophy for a dissertation on amido-valerianic acid. He also studied for a session at Heidelberg under Bunsen, and afterwards worked in Paris for nine months in the laboratory of Professor Payen at the Conservatoire des Arts et Métiers. At the still early age of twenty-three he returned to Glasgow, where he was for three years senior assistant at the Andersonian College to his old teacher Penny, acting as his substitute during the illness which ended in Penny's death. In 1870 he joined his friends Mr. Tatlock and the late Dr. Wallace in forming the widely-known firm of Wallace, Tatlock, and Clark, who, in addition to their analytical practice, carried on a very successful private school of technical chemistry. For some years Dr. Clark also lectured on chemistry in the Medical School of the Royal Infirmary at Glasgow. In 1888 the original partnership was dissolved by the retirement from the firm of Mr. Tatlock, who established the separate practice which he still carries on in conjunction with Mr. R. T. Thomson; and the death of Dr. Wallace left Dr. Clark in sole charge of the laboratory of the original firm at 138, Bath-street, until his son and survivor, Mr. R. M. Clark, became qualified, a few years since, to join his father in partnership. Dr. Clark's contributions to chemical literature were many, being almost wholly directed to the practical advancement of analytical chemistry.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Coke Oven By-Products. G. Lessing. 17,802. August 6.
Extracting Copper from Ores. King's Norton Metal Co., Ltd., T. A. Bayliss, H. M. Smith, and H. W. Brownsden. 17,805. August 6.
Resinous and Gummy Products. L. Grognot. 17,868. August 6.
Treatment of Mineral Oils. S. Wohle. 17,883. August 6.
Dehydration of Solutions. J. S. Beemam. 17,884. August 6.
New Leuco-compounds of the Oxazine Series. P. A. Newton. 17,960. August 7.
Oxalic Acid. J. McDougall and F. L. McDougall. 17,971. August 7.
Lining for Grinding Mill. J. R. Brown. 17,983. August 7.
Ore Concentrating Jigs. H. W. Foust. August 8.
Cyanide Briquettes. J. Y. Johnson. 18,096. August 9.
Treatment of Alkaline Effluents. J. Ratcliffe. 18,135. August 10.
Centrifugal Machines. P. Spengler and E. Sommerschuh. 18,147. August 10.
Phenylglycine and its Homologues. R. J. Friswell. 18,149. August 10.
Treatment of Producer Gas. G. Wilton. 18,153. August 10.
Carbonising Plants. H. Schirp. 18,156. August 10.
Preventing or Consuming Smoke. H. Blacknell and S. Oram. 18,138. August 10.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.

1906.

Extraction of Copper from Pyrites. Ellis. 17,441.
Gas Producers. Becker and Greener. 18,081.
Electro-Deposition of Copper. Cowper-Coles. 20,380.
Pulverising and Amalgamating Ores. Redruth Foundry Co. and Pryor. 21,423.
Condensing and Deodorising Gases from Fish Manure and Drying Plant. Catto. 24,901.
Electro-metallurgical Process for Extracting Copper from its Ores. Jumau. 27,120.

1907.

Methylthio-phenol-ortho-carboxylic Acid and Derivatives thereof. Imray. 593.
Sulphurised Dyestuffs. Imray. 1,593.
Sulphurised Leuco-Bodies. Imray. 1,594.
Treating Ores Containing Zinc Sulphide and Lead Sulphide. Thelburg. 2,789.
Drying Kilns. Neame. 3,506.
Continuously Producing Carbide from Lime and Carbon. Petersson. 5,658.
Suction Gas Plant. Delion and Lepeu. 9,138.
Fertiliser from Atmospheric Nitrogen. Roth. 12,741.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements Relating to the Treatment of Refractory Zinc-lead Ores P. C. C. Isherwood, The Oaks, High Road, Harrow. British Patent, 16,364 July 19, 1906

According to this invention the ores are treated with ammonium chloride or ammonium sulphate for the solution, when ammonium chloride is used, of the bulk of the zinc, lead and copper, and a proportion of the silver contained in them, or, when ammonium sulphate is used, for the solution of the bulk of zinc and copper and a trace of the lead, and for the subsequent precipitation thereof under conditions that do not involve the necessary use of any other reagent, and which permit of the regeneration of the ammonia employed as chloride or sulphate.

Improvements in or Relating to Ore Concentration. H. L. Sulman, 44, London Wall, London. British Patent, 19,944. September 17, 1906.

The object of this invention is to improve those processes in which different mineral particles are separated from one another by the differential action of a film or surface of liquid whereon certain particles may float on account of the surface tension while other particles do not float.

In British Patents No. 25,204 of 1904, No. 25,204A of 1904, No. 29,374 of 1904, and No. 5,260 of 1905 are described various processes and apparatus for the separation of different mineral particles from one another by exposing the particles to air and afterwards causing them to meet the edge or surface of water, when certain particles such as metallic sulphides, etc., float, and are separated from other particles such as gangue which sink, and a particular apparatus for carrying out such processes is described in Application No. 9,981 of 1906. This invention is applicable to processes of this general type. In the former two specifications referred to above it is pointed out that the adaptability of the liquid for the flotation process is capable of being modified by any chemical or physical agency which is known to modify the phenomena of surface tension or capillarity.

According to the present invention it has been found that in processes for separating particles which float upon a liquid surface owing to the surface tension from particles which do not float, the flotation power, *i.e.*, the readiness with which the mineral particles are caused to float, is increased by warming the liquid within certain limits. For example, in a process of separating different mineral particles from one another which consists in immersing these particles in a liquid such as slightly acidified water and in bringing the particles up through the surface, whereby certain particles are suspended on the surface and are separated from other particles which penetrate the surface, it is found that as the acidified water is warmed to a temperature of say 60° C. the readiness with which the mineral particles float gradually increases. On still further raising the temperature, the increase in flotation power is not in general so marked, and according to the nature of the minerals which are being treated the flotation power reaches a maximum which differs for different minerals and for solid particles of different characters. In certain cases, and notably with ores containing much iron pyrites, a temperature of 80° C. or more can be used with advantage.

In general, in the surface flotation processes cited above, the readiness to float certain particles, and the effectiveness of the separation, are improved by heating the liquid upon which the separation takes place, say, to a temperature between 35° and 90° C.

For different mixtures of solid particles the temperature at which the separation is most effective will vary, and a simple preliminary test can determine the proper limits of temperature for each particular case. In certain cases it may be advisable to vary the temperature of the liquid at different stages in the treatment of one ore, as, for example, where an ore or tailings is treated in a concentrating apparatus more than once, the liquid employed in the different operations may be heated to different temperatures.

Improvements in the Manufacture of Ammonia and Formic Acid from Cyanides. J. Y. Johnson, 47, Lincoln's Inn Fields, London. British Patent, 22,038. October 5, 1906.

Four hundred parts of barium cyanide are reduced to a coarse powder and introduced with 600 of water into a steam-jacketted autoclave provided with a stirring apparatus. Whilst stirring, the temperature is raised slowly to 150° C., and this temperature is maintained for about five hours until the pressure in the autoclave remains constant, thus showing that the saponification is complete. On opening the autoclave the ammonia, which is saturated with aqueous vapour but is otherwise pure, streams out and can be freed from water by cooling, and, if necessary, by passing through quicklime, and can then be compressed, or treated, or employed as desired. The residue remaining in the autoclave contains barium formate from which formic acid can be obtained in any desired manner.

The Manufacture of an Improved Dry Chlorinated Compound of Lime. G. W. Johnson, 47, Lincoln's Inn Fields, London. British Patent, 24,101. October 29 1906.

The patentee observes that it is well known that in the dry compound of lime and chlorine at present on the market, not more than from 80 to 90% of the chlorine contained therein are active, the remaining 20 to 10% being useless inert matter. All attempts, previous to this invention, to produce chlorinated compound of lime containing a much higher percentage of active chlorine have failed, as, in the usual processes, based on bringing dry slaked lime into contact with chlorine, the lime is not capable of taking up more than the amount of chlorine mentioned above.

According to the present invention, a dry chlorinated compound of lime is obtained, in an efficient and economical manner, the

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compound having a contents of active chlorine of from 80 to 90%.

Instead of starting, as is usual, from dry slaked lime, milk of lime is taken, and through this, whilst being stirred, chlorine is passed until the lime is almost saturated with chlorine. The solution of chlorinated lime thus obtained is filtered, and then so evaporated that there is the least possible decomposition of the calcium hypochlorite. This can be effected, for instance, by concentrating the solution *in vacuo* at a low temperature, or (as the rate at which decomposition takes place is a function of temperature) by effecting the evaporation rapidly at a high temperature. The calcium hypochlorite is precipitated in a crystalline state and can be easily separated by suction and washing out.

Improvements in Gas Producers. C. L. Armstrong, Monticello Hotel, St. Louis, Missouri, U.S.A. British Patent, 24,666. November 3, 1906.

This invention consists in a down draught gas producer of the combination comprising a shell or generator, a header at each end thereof, a lid for the top of the producer, means for introducing the charge into the generator through the cover, an intra-mural water-circulating connection between the headers, a series of water-tubes opening into the bottom header and spanning the space between the inner walls thereof and serving as a grate for the charge, a steam (and air) injector leading from the top header and discharging into the space immediately above the surface of the charge, thereby driving the producer gas through the charge downward, the generator being provided with means for withdrawing the gas from a point below the grate. The specifications and drawings should be consulted.

Improvements in Rotary Kilns. W. R. Warren, 68, William Street, New York City, U.S.A. British Patent, 26,875. November 26, 1906.

The inventor claims :—(1.) In a rotary kiln having a double shield with outlet and discharge spout, the construction wherein one of the shields is supported or mounted on the kiln and the other shield is supported separate from the kiln with the discharge spout at or about the centre of the shields. (2.) A rotary kiln having an enlarged portion with a fuel intake, extended unbrokenly throughout a portion of the kiln and a reduced portion extended unbrokenly throughout the rest of the kiln, said enlarged portion having an outlet located above the bottom of the kiln, the peripheral portion of the latter being closed against outlet.

Improvements in Electric Furnaces. A. Reynolds, 11, Queen Victoria Street, London. British Patent, 26,981. November 27, 1906.

This invention relates to electric resistance furnaces of the kind in which the furnace lining or the crucible walls receive the whole or a part of their heat by conduction from an electrically heated resistance or resistances in contact therewith or separated therefrom only by a thermally conducting, although electrically insulating, inert material.

According to the present invention the heat is generated for the most part in a resistance of loose carbon ground to the necessary degree of fineness and packed between suitable retaining walls, and in order to obviate the destructive effects of excessive local temperatures due to "arcing" within the loose carbon resistance, and also to impart mechanical strength to the furnace the loose carbon resistances are enclosed within tubes or hollow bricks of solid carbon in suitable form such as plumbago, or are otherwise combined with plumbago bars or walls which while readily transmitting the heat generated in the loose carbon confine any excessive local generation of heat to the resistances themselves, thereby obviating the destructive action of such excessive temperatures on the crucible or the furnace lining or brasquing. In cases in which the loose carbon resistance is not entirely shrouded or enclosed by plumbago walls, it may if necessary be separated from the furnace lining or casing, or the crucible walls, by a thermally conducting brasquing or course of bricks made of carborundum or siloxicon or other suitable material which is inert to carbon and to the furnace lining or crucible at high temperatures.

The invention may be applied to the hearths of gas or coal fired reverberatory furnaces, Bessemer converters, muffles or ordinary crucible furnaces, and the construction of resistance above indicated forms not only a satisfactory electric heating agent but also serves to increase materially the mechanical strength of furnaces heated by loose carbon resistances, thereby obviating or reducing strains resulting from the stresses to which the crucible or the hearth is subjected by reason of the weight of the charge.

THE USE OF TAR FOR DUST PREVENTION.

We are informed by the Roads Improvement Association that the Judges' Committee appointed by the Association to carry out the competitions for the best tar-spreading machine and the best preparation of tar for road purposes, have made their awards as follows :—

Competition for the best Tar-Spreading Machine :—1st prize of 100 guineas and the Association's gold medal to Thomas Aitken, County Buildings, Cupar, Fife, for "Aitken's Patent Pneumatic Tar-Sprayer." Second prize of 50 guineas and the Association's silver medal to Tarspra, Ltd., 20, Victoria-street, London, S.W., for their 700 gallon "Tarspra" (Patent) Thornycroft Motor Van.

Competition for the best preparation of Tar for Road Purposes :—1st prize of the Ballymenagh Woollen Factory Company's 100 guineas trophy, and the Association's gold medal, to R. S. Clare and Co., Ltd., Stanhope-street, Liverpool, for "Clare's Patent Tar Compo."

These tests were carried out on May 22, 23, 24, and 27 last, on certain roads in Middlesex and Berkshire. Since these dates the roads have been kept under constant observation, and, durability being an important consideration, it has not been possible to make the awards until the present time.

A full report of the trials is now in course of preparation. It is proposed to divide it into two sections—one, the Judges' report on the respective merits of the various machines and preparations of tar entered for the competitions, and the other a full and comprehensive survey of the whole question of the use of tar for road purposes.

The cost of these trials was borne by the Royal Automobile Club and the Motor Union of Great Britain and Ireland. The Judges' Committee, in addition to members of the Council of the Roads Improvement Association and others, included eight leading engineers and road surveyors, appointed after consultation with the Incorporated Society of Municipal and County Engineers and the County Surveyors' Society.

The Growth of a Crystal.—At one of the evening lectures in connection with the Leicester meeting of the British Association on "The Growth of a Crystal," Professor Miers pointed out that a great many familiar things were actually made up wholly, or in part, of crystals, as, for example, minerals and precious stones, rocks, such as granite, basalt, and marble, and metals, such as iron and steel. The principles of crystallization that we studied here prevailed also in distant parts of space, for the crystalline structure of rocks and metals was to be seen in the meteorites that fell upon the earth from the sky; and the same principles had prevailed in remote past time, for many of the crystalline rocks were very ancient. The most wonderful feature of crystals was the manner in which they grew just as though they were living things. Two features deserved special attention. The first was the remarkable power crystals possessed of healing themselves when mutilated. If a growing crystal were removed from a solution, broken at one of its corners, and re-immersed in the solution, it would continue to grow, and as it grew would restore the missing part, and become once more a completely symmetrical figure. This power of continuing to grow was possessed by a crystal even after countless ages, so soon as it was immersed into the appropriate solution. In this sense the crystal was immortal, for it never lost its vitality, or power of growing. The other remarkable feature was the growth of crystals in over-saturated solutions. In solutions only slightly over-saturated, no spontaneous generation of crystals was possible. It was true that a solution only slightly over-saturated would often begin to crystallise, apparently spontaneously, when exposed to the air, but this was because there were minute crystal fragments of the dissolved substance floating about in the air which got into the solution with the dust and so inoculated the solution with crystal germs, just as the human body might be inoculated with disease by a disease germ. If these germs were kept out, the solution would not crystallize until it was very strongly over-saturated, and then, at a certain strength, it would suddenly begin to crystallize spontaneously and with great rapidity. In conclusion Professor Miers stated that so little had been done in the systematic watching of crystals as they grew, that interesting discoveries might be made by anyone who would take up their study, even without previous knowledge or experience.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, August 21.
120,000	1	1	Bell's Asbestos ... ord	1 11/16 1 15/16
	Stock	100	Borax Consol 4½% deb. stock red	109 111
80,000	10	10	Do. ... pref.	11 1 3/16
1,356,477	1	1	Bradford Dyers ... ord.	23/9 24/-
1,50 ,000	1	1	Do. ... 5% c.p.	20/10½
35,000	10	10	British Dyewood ... ,,	4 4¼
600,000	1	1	British Oil & Cake Mills ord.	13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	44/-
10,000	10	10	Do. ... 6% c.p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5¼ 5 5/16
82 678	10	10	Do. 7% pref.	17¼ 17½
96,000	5	5	Bryant and May ... c.p.	12¼ 12¾
40.000	10	10	Buxton Lime Firms ord.	6 6⅛
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/3
450,000	1	1	Castner Kellner ... ,,	24/6 25/-
16,000	5	5	Clayton Aniline ... ,,	2¾ 3
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m p.	2½ 3
20,000	10	10	Crossfield J , and Sons c.p	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	28/- 28/6
5,000	10	10	Do. 6% c p.	12 3/16 12 5/16
£15,223,235	Stock	00	Gas Light and Coke Co. ord.	93⅞
	10	10	India Rubber Co. ... ,,	15 3/16
	5	5	Lagunas Nitrate ... ,,	2⅞ 3⅛
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	10½ 11
200,000	10	10	Lever Bros. ... 5% c.p.	11 11¼
400,000	10	10	Manchester Ship Canal ord.	22/3
400,000	10	10	Do. per 5% pref.	32/-
120,000	1	1	Mandleberg ... ord	30/9 31/-
185,145	1	1	Mason and Barry ... ,,	2¾ 3
110,007	10	10	Nitrate Railways ... ,,	12¼ 12¾
228,540	10	10	Nobel Dynamite Trust ,,	15
	10	10	Do. share warrants	15
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/6
	1		Pears, A. and F. ... ,,	28/9
70,000	10	10	Pease and Partners ... ,,	13⅜ 13⅝
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12¼
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	74½
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	2/9 3/3
200,000	4	4	Salt Union ... ... ,,	17/- 17/6
100,000	6	6	Do. ... 7% n.c.p.	4¼ 4½
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1 1¼
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	118 120
45,000	10	10	Steiner, F. and Co. 5% c p.	9 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼ 6½
289,343	10	10	United A kali ... ord.	79/9
282,524	10	10	Do. ... 7% pref.	11¾ 11⅞
80,000	1	1	United Indigo & Chemical ord	1/6 2/6
66,666	5	5	Willans and Robinson ,,	¼ ⅜
210,000	1	1	Woolc mbers . . 7% c.p.	21/6 22/6
112,202	4	4	Young's Paraffin ... ord.	73/9

THE "KÖSTER" AIR COMPRESSOR.—Amongst the orders recently received by Messrs. W. H. Bailey and Co., Ltd., Albion Works, Salford, for their "Köster" patent air compressors, is one for the South-Eastern and Chatham Railways, capable of dealing with 60,000 cubic feet of free air per hour, and another for the Daimler Motor Co., Ltd., Coventry, to deal with 14,000 cubic feet per hour.

CHESHIRE SALT EXPORTS.—The official statistics of the past month's Cheshire salt shipments report exports and coast shipments of 64,368 tons, being an increase on the corresponding month of last year of 15,589 tons. Exports to Asia were increased by 8,000 tons, to Australasia by 2,700 tons, and to Europe by nearly 2,000. There was a 4,000-ton reduction to British North America. The seven months' Cheshire salt trade this year is 24,000 tons below the corresponding period of 1906.

NEW YORK PRICES CURRENT.

AUGUST 5, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8½
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7¾
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds ..	,,	0 9½
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	,,	0 8½
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¼
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	40 0

ARIZONA COPPER CO.—The profits for the half-year, including £11,508, brought forward, amounts to £259,687. After paying preference charges, the directors have resolved to pay an interim dividend of 2s. 3d., free of tax, on the preferred and deferred shares, leaving £76,433, to be carried forward.

THE INSTITUTE OF CHEMISTRY: EXAMINATIONS IN CHEMICAL TECHNOLOGY.—The next examinations in chemical technology will commence on Tuesday, October 29th, 1907. The examinations will be open only to Fellows, and to those Associates who have been registered as such for at least one year, who produce evidence of practical technological training. Fellows and Associates who desire to present themselves are required to send in their applications and fees not later than Tuesday, the 24th of September, 1907. All communications should be addressed to The Registrar, Institute of Chemistry, 30, Bloomsbury-square, London, W.C.

Market Reports.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £79. to £79. 5s. cash, and £77. to £77 5s. three months. Tin: G.M. quality, £166. 15s. to £167. 5s. cash, and £166. to £166. 10s. three months; English, £172. Lead: soft foreign, £19. 12s. 6d. prompt; September shipment, £19. 10s.; English, £20. to £20. 5s. Spelter: ordinary brands, £21. 15s. to £22., ex ship; hard, £18. 10s., f.o.b. Antimony, £35. to £38.; ore, £8. 10s. to £9. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 15s. Nickel, £175. to £185. Pig-iron closing prices:—Cleveland, 57s. 3d. cash and 57s. 3d. one month.

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THE AMERICAN CHEMICAL MARKET.

NEW YORK, July 30, 1907.

(Rate of Exchange, $4.87 = £1.)

Nitrate of soda remains in fair demand around $2.50. per 100 lbs. Sulphate of ammonia is inclined to dullness, at $2.05., as to make; white, for electrical, is in free supply, and sells as low as 5¼c. per lb. Lump sal ammoniac is steady, at 9½c. p lb. for good white seconds. Lump carbonate of ammonia is 7⅞c. to 8c. per lb. Bleaching powders are dull, at $1.20. to £1.30. Alkali and caustic soda are without change, at prices previously reported. Sulphate of copper is inclined to weakness, following the course of the metal, but the Syndicate price of 7d. is still maintained. White powdered arsenic is very dull; sales have been made at 7c. per lb. for prompt delivery, and futures are now offered at 6⅞c. to 7c. per lb. Canadian goods are coming on the market more freely. Red Saxony arsenic is 7½c. per lb. Calcined carbonate of potash, 80-85%, is 3¼c. to 3⅝c. per lb., and hydrated 4¼c. per lb. Caustic potash, 75%, is 4¼c. per lb. Chlorates are unchanged at convention prices. Bichromate of potash is 8⅜c. per lb., and soda, 7⅜c. per lb. Prussiate of soda is 9⅝c. to 10c. per lb. Prussiate of potash is dull, at 10c. per lb. Oxalic acid is offered a little more cheaply for future at 8c. per lb., and a steady business is being done at 8¼c. per lb.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols firm, with values given at 9d. for 90's, and 9d. for 50-90's. Crude Tar, 15s. 6d. to 20s. per ton Thames, 1¼d. to 1⅜d. per gallon delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 26s. to 26s. 6d., f.o.b.; Gas Company, 29s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. to 24s. 6d., forward 2s. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10½d. to 11d.; pure, 1s. 6d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8d.; 75%, 1s. 11¼d. to 2s.; crystals, 39-40, 5¾d.; 34-35, 5¼d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45%A, 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, £12.; Beckton terms, £11. 11s. 3d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 16s. 3d. to £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined 11s. 9d.; Liverpool ordinary, 11s., refined 11s. 1½d. Official quotations:—Cargoes off coast or due, 11s. 1d.; ditto for prompt shipment, 11s. 5½d.

FERTILISER MATERIALS.

Friday.

There is no change to report in mineral phosphates, raisers of all grades being well sold ahead, and any business being done is at full prices.

East Indian bone meal for shipment attracts but little attention, £4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, would now be accepted for 4½ and 52% quality. On spot £5. 5s. to £5. 10s. per ton, according to quality, ex store, is required.

Nitrate of soda still remains quiet, but quotations are steady at 11s. 1¾d. to 11s. 4½d. per cwt., ex store, for ordinary and refined qualities respectively.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

The only important change to record during the past week is the large decline in value of sulphate of copper. Quotations to-day rule from £26. 10s. to £27., f.o.b. Liverpool, and the market has closed a little steadier. Caustic soda, ammonia alkali, and other allied products of the alkali trade remain unaltered. Saltcake rather quiet at 40s. per ton on rails. Recovered sulphur, bags, £4. 12s. 6d., f.o.r. Prices for chlorates and bichromates are steady, but there is not much inquiry. Prussiates continue easy, and the potash salt is offered on the spot at 5⅞d. per lb. Soda, 3⅞d. per lb. Supplies of white powdered arsenic are now coming forward more freely, and sales have been made for prompt at £31. 10s., Garston. American brown acetate of lime slightly weaker at £8. 7s. 6d. net, ex ship; grey unchanged at £12. 10s. per ton. Lead salts in better demand and prices are steady. Foreign white, £32., c.i.f.; brown, £26. 10s. per ton; nitrate, £35., delivered. Tin and zinc salts meet with more inquiry, but quotations are a shade lower. Nitrate of soda dull, at £11. to £11. 5s. Liverpool. Oxalic acid is now freely quoted for next year at 3⅛d. to 3¼d. per lb., but so far not much business has been concluded.

LIVERPOOL OIL AND COLOUR MARKET.

Thursday.

OILS.—Palm oil dull. Olive oil steady. Linseed oil also steady at 24s. 6d. to 25s. 3d. for Liverpool makes in export casks. Cottonseed oil in moderate demand at 31s. to 31s. 6d. for Liverpool refined in export barrels. Tallow, South American mutton, quoted at 34s., July-August shipment. Rosin steadily held at recent currencies. Turpentine steady, at 41s. 9d. per cwt. on spot. Petroleum firm, at 6½d. for Russian and Roumanian, and 7d. to 8d. for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

LIVERPOOL DRYSALTERIES.

Thursday.

Montreal potashes steady at 35s. per cwt. Pearl ash nominal. Cutch inactive. Gum arabic steady, with little offering. Castor oil quiet, at 3 9/16d. for good seconds Calcutta, 3½d. for second pressure French, and 3 11/16d. for first pressure French; Calcutta, for August-September shipment, 3⅝d. Gambier quiet, at 18s. 9d. to 19s. for block, and 18s. 6d. for June July; 18s. for July-August and August-September shipments; spot parcels of cubes, 28s. 6d. to 29s.; and 27s. 9d. per cwt. for August-September and September-October shipments. Shellac quiet, at 198s. to 200s. for fair T.N. orange on spot. American powdered starch, 10s. on spot, and 9s. 6d., c.i.f., for shipment; pearl, 9s. 6d. on spot, and 9s., c.i.f., for shipment. Glucose, American liquid, 43%, 10s. 4½d. on spot, and 8s., c.i.f., for shipment. Cream of tartar 98% foreign powder, 81s.; 95%, 79s. Tartaric acid: English on spot, 11¼d. to 11⅜d.; foreign, 11d. Citric acid: English 1s. 11½d.; foreign, 1s. 11d.

HULL PAINT, OIL, AND COLOUR REPORT.

Thursday.

OILS.—There have been practically no variations in prices of linseed and cottonseed oils upon the week; markets generally are unchanged. Amongst the principal imports here to date, as against the same time a year ago, are:—Wheat, 2,633,083 qrs., against 2,512,452 qrs.; flour, 125,660 cwts., against 241,143 cwts.; linseed, 502,178 qrs., against 336,551 qrs.; cottonseed, 125,413 tons Egyptian, against 107,061 tons, other kinds 121,897 tons, against 95,119 tons; rapeseed, 60,706 qrs., against 50,020 qrs.; oilcake, 17,725 tons, against 25,856 tons; hemp, 86,209 cwts., against 110,143 cwts.; olive oil, 3,474 tuns, against 2,917 tuns; tar, 3,794 barrels, against 7,103 barrels. Amongst the weekly imports are:—2,142 qrs. of castor seed from Bombay; lard, 7,260 cwts.; margarine, 2,866 cwts.; butter, 9,258 cwts.; sugar, 32,558 cwts.; glucose, 600 cwts.; hides, 794 cwts.; oilcake, 31 tons; colours, 2,740 packages; wool, 75,560 lbs. Exports:—Oil, 9,743 cwts.; colours, 3,016 packages; chemicals, 2,716 packages. Linseed oil has been dull and flat at the decline; spot naked, 21s. 1½d. per cwt.; September-December, 20s. 1½d.; January-April, 19s. 9d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week have been:—France 1 ton, Germany 2, Norway 7; total, 10 tons. Refined cotton oil has been quiet at the decline of 7s. 6d. per ton, near positions, and 2s. 6d. per ton distant; spot, 28s. 4½d.; November-April, 23s. 7½d. naked; casks £1., and barrels £1. 10s. per ton extra. Exports during the week:—12 tons France, 29 Germany, 11 Holland; total, 52 tons. Linseed closes dull, with imports of 27,285 qrs., with only small business passing at the decline from 6d. to 9d. per quarter. Cottonseed quiet, with prices about 2s. 6d. lower; August shipment for Hull is worth £8. 2s. 6d., imports 4,445 tons for week. Turpentine, 41s. 9d.; Russian, ditto, 20s. 6d.; Assyrian, 18s. Rosins unchanged. Castor and olive oils ditto.

CAKES.—The market for both linseed and cotton cakes has continued firm; 95% pure, £7. 5s. to £7. 10s.; Russians, £7. 5s.;

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Americans, none; Canadians, £7. 10s. Oilcakes, £6. 5s.; cotton cakes, best, £5.; Bombay, £4. Rape cakes, £4. per ton.

PAINTS.—Unchanged.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

In this market a slightly improved feeling has been experienced during the week in sulphate of ammonia, of which for prompt f.o.b. Leith there has been an increased turnover at a steady £12. price, some sellers now looking for a fraction over. Forward delivery business has also revived, and several transactions are reported at £12. 2s. 6d. to £12. 5s. The fall in sulphate of copper has continued, following the tendency of prices in the metal. A fairly good feeling holds in general chemicals, forward delivery inquiry being notably more in evidence. Lead products have been easing off in quotations. The booking of burning oil contracts for the new season has been a large daily business, and continues. Creosote holds at 2¼d. naked, f.a.s. Glasgow, but the feeling is if anything stronger on the general market.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s. to 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £29. 10s., less 5% Liverpool, prompt.

TYNE CHEMICAL REPORT.

THURSDAY.

Market continues very steady, and generally speaking there is a fair average demand. Soda crystals locally in good request, at £3. to £3. 2s. 6d. per ton, gross weights. Caustic soda, 70%, £9. 15s.; and 76-77%, £10. 10s. per ton. Bleaching powder, £5. to £5. 5s. per ton. Sulphur, scarce and firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market continues very firm and all classes of Durham coals are scarce and firm, loading terms are long and the principal collieries have very little coal to offer for early delivery.

To-day's quotations:—Best Northumbrian steam, 16s. to 16s. 6d. per ton; second qualities, 15s. to 15s. 6d. per ton; Northumbrian small, 10s. 6d. to 11s. per ton; best gas coals, 15s. to 16s. per ton; Durham bunkers, 14s. to 15s. per ton; good coking coals, 14s. 6d. per ton; household coals, 16s. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

New Companies.

Edmundian Copper Mining Co., Ltd.—Capital £135,000., in £1. shares. This company has been formed to acquire freehold and other farms, lands, buildings, mines, concessions, leases, mining, water and other rights, mineral and other properties in Africa or elsewhere, to adopt an agreement with the Consolidated African Copper Trust, Ltd., and to carry on the business of copper and general miners, prospectors, explorers, metallurgists, etc. No initial public issue. The first directors are H. D. Boyle, J. Seear and E. R. Tymms. Qualification, £250. Remuneration, £100. each per annum (chairman £150.) and 5% of the net profits, divided (maximum in any year £1,000.). Registered office, 8, Old Jewry, E.C.

Cumbrian Mining Co., Ltd.—Capital £25,000., in £1. shares. This company has been formed to acquire lands, mines, mineral and other properties and hereditaments in the U.K. or elsewhere, to adopt agreements (1) with F. Boehm and (2) with the British Mining and Metal Co., Ltd., and to carry on the business of miners, explorers, prospectors, concessionaires, quarry owners, etc. No initial public issue. The subscribers are to appoint the first directors. Remuneration (except managing director), £50. each per annum and a further £50. each in any year, payable out of the surplus remaining in any year when 10% dividend is paid.

Compound Metals Co., Ltd.—Capital £15,187. 10s., in 15,000 ordinary shares of £1. each and 3,750 deferred shares of 1s. each. This company has been formed to adopt an agreement with the British Aluminium Co. Ltd., and to carry on the business of manufacturers and workers of and dealers in metals, ores and minerals, alloys, metallic compounds, combinations of metals, engineers, founders, etc. No initial public issue. The holders of the original 1st debentures shall, so long as any of such debentures may be outstanding, be represented on the board in the proportion of one of three or two of four or more directors; subject as above; the subscribers are to appoint the first directors; qualification, £100.; remuneration, £100. each per annum and a share in the profits.

Hahnite (1907), Ltd.—Capital £60,000., in £1. shares. This company has been formed to acquire a certain invention for an improved oleaginous mixture for sprinkling on roads and the like, to develop and turn to account the same, and to adopt an agreement with Captain A. C. Way, D.S.O. Hahnite, Ltd., have consented to this registration. Minimum cash subscription £100. The first directors are G. H. Hopkinson, F. Rawson, C.M.G., Captain A. C. Way, D.S.O., and R. H. Hahn; qualification £100; remuneration, £100. each per annum (chairman £150.) and 5% of the dividend in excess of 10%, divided, provided that the remuneration of the chairman shall not exceed that of other directors by more than £50. (maximum in any year £2,000.). Registered office, 3 and 4, Gt. Winchester-street, E.C.

Society of Public Analysts and Other Analytical Chemists.—Registered with 350 members, each liable for £1. in the event of winding-up. This company has been formed to encourage, assist and extend the knowledge and study of analytical chemistry, adulteration, nature and composition of articles of food, drugs and commercial products generally. The word "Limited" is omitted from the title by licence of the Board of Trade. The management is vested in a Council. Registered office, 8, Duke-street, Aldgate, E.C.

Uneo Asbestos Lubricating Co., Ltd.—Capital £1,000., in £1. shares. This company has been formed to carry on the Agency in the United Kingdom for the sale of oils, asbestos, lubricants and other products of the General Lubricating Co., Philadelphia, Penn., and to adopt an agreement with the said company. No initial public issue. The first directors are J. B. Atherton and J. Atherton; qualification, 100 shares.

Wm. Bennett and Sons (Grimsby), Ltd.—Capital £20,000., in £10. shares. This company has been formed to acquire the business of manure and oil manufacturers carried on by Wm. Bennett and Sons, at Grimsby, to adopt an agreement with W. Bennett and G. L. Bennett. No initial public issue. The first directors are W. Bennett and G. L. Bennett (managing directors), W. S. Letten, G. S. Letten and L. A. Smith; qualification, 50 shares. Registered office, 256, Victoria-street, Grimsby.

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IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Cas. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Clds.	Cylinders.	Oza.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending August 10

Acetic Acid—

Norway,	47 pks.	Weber, Smith & Hoare
,,	18 cks.	R. Waters
Holland,	44 pks.	R.W. Greeff
,,	8 brls.	& Co.
,,	25	W. H. Muller & Co.

Acetone—

U.S.A.,	£800	Fielder, Hickman & Co.
,,	1,125	Woods Trustees

Albumen—

China,	£280	J. L. Lyon & Co.
France,	40	Felton & Crepin
China,	500	L. & I. D. Jt. Co.

Alcohol Methylic—

U.S.A.,	180 gals.	L. & I. D. Jt. Co.

Aluminium—

Germany,	1 t.	R. W. Coan
Belgium,	2 c.	John Cockerill Line
France,	3	G. T. Symons & Co.

Aluminium Sulphate—

Holland,	£785	Ohlenschlager Bros.
,,	60	Thames S. T. & L. Co.

Ammonia (Anhydrous)—

U.S.A.,	£47	Armour & Co.

Antimony (Crude)—

Germany,	5 t.	M. Benscher

Antimony Ore—

E. Turkey,	6 t.	Quirk, Barton & Co.

Antimony Sulphide—

Germany,	£25	Argo S.S. Co.

Argols—

Spain,	137 cks.	Thames S. T. & L. Co.
France,	309 bgs.	,,
Spain,	100 cks.	B. Jacob & Son
Italy,	648 bgs.	,,

Arsenic—

Portugal,	£350	Coverley & Westray

Asbestos—

Canada,	40 t.	4 c. Deering & Robottom
,,	18	Lunham & Moore
Italy,	£335	Wallach Bros.
N. Russia,	45	Cape Asbestos Co.

Barium Binoxide—

Germany,	£158	London & Rhine S. Office

Barytes—

Holland,	60 bgs.	J. Barber & Co.
,,	150	J. Owen
,,	400	W. Harrison
,,	45 cks.	& Co.
,,	34	Duggan, Neel & Co.
,,	23	W. Ostermann
,,	44	Felton & Crepin
,,	400 bgs.	,,
,,	24 cks.	O. Lechla
,,	42	P. Jantzen
,,	54	J. Greig
Italy,	200 bxs.	W. Harrison & Co.
Belgium,	78	Taylor Bros.
,,	138 cks.	,,
,,	149	Felton & Crepin
,,	500 bgs.	,,

Barytes—

Germany,	12 cks.	Boor & Co.
,,	845 bgs.	Silicate Paint Co.

Boracic Acid—

Germany,	10 cks.	J. T. Archer
,,	10	Craven & Co.
France,	60	Burton, Baker & Co.

Borax—

France,	41 t. 10 c.	Burton, Baker & Co.

Bog Ore—

Holland,	120 t.	W. H. Hawkins

Bone Meal—

E. Indies,	83 t.	W. Wrightson & Son

Camphor—

Germany,	£20	Wingate & Johnston
H. Kong,	43 cs.	L. & I. D. Jt. Co.

Caoutchouc—

Germany,		4 c.	L. & I. D. Jt. Co.
,,		15	Hale & Son
,,	5 t.	13	Wallace Bros.
,,	1		Baxter, Hoare & Co.
,,	1		Props. Bull Wf.
,,	2	9	Clarke & Smith
,,		6	Davis, Turner & Co.
France,	10	10	L. & I. D. Jt. Co.
,,		10	Major & Field
,,		10	S. Figgis & Co.
,,	11	10	T. H. Lee
Ceylon,		11	Hoare, Wilson & Co.
,,		2	Dent Bros.
,,		2	Chamberlain's Wf.
,,	1	1	L. & I. D. Jt. Co.
,,	1	10	Caout. & Gen. T. Co.
,,		1	Evans & Co.
,,		1	Bremner & Laycock
Holland,	1		S. Figgis & Co.
,,	1	2	L. & I. D. Jt. Co.
Burmah,	3	2	S. Figgis & Co.
Straits,	2	19	Prop. Hay's Wf.
,,		3	Lawrence, Boustead & Co.
,,		5	L. & I. D. Jt. Co.
,,	12	19	Props. Bull Wf.
,,	10		Boustead & Co.
Natal,		10	J. T. Rennie, Son & Co.
St. Lucia,		1	Weber, Smith & Hoare

Carbon Black—

U.S.A.,	256 brls.	Black, Binney, Smith & Co.

Carbonic Acid Gas—

Holland,	£315	Van Dam & Co.

Castor Oil—

France,	10 brls.	R. Warner
,,	25 cs.	& Co.
Holland,	14	Lucas & Spencer's Wf.
France,	10 pks.	L. & I. D. Jt. Co.

Caustic Potash—

Sweden,	8 dms.	United S. Co.
Germany,	36	F. Fink & Co.
France,	6	Petri Bros.
U.S.A.,	20 cks.	S. Ward & Co.
Germany,	25 dms.	J. N. Steel & Co.

Chalk—

Italy,	£10	J. Coppo & Co.

Chalk (French)—

France,	£12	Hernu, Peron & Co.
France,	55	Harrison & Co.

Chemicals *(otherwise undescribed)*

Holland,	£207	W. H. Muller & Co.
,,	110	R. W. Greeff & Co.
,,	6	T. H. Lee
,,	23	J. Barber & Co.
France,	8	Europe & Gen. Ex. Co.
,,	14	Pickfords, Ld.
,,	15	Mory & Co.
Germany,	65	Argo S.S. Co.
,,	36	Prop. Hay's Wf.
,,	802	A. & M. Zimmermann
,,	66	N. & R. Collyer
,,	2,791	T. H. Lee
U.S.A.,	1,765	R. W. Greeff & Co.
,,	400	B. & F. Wf. Co.
Belgium,	18	Leach & Co.
,,	6	J. Cockerill Line
,,	7	W. Voss & Co.
,,	10	Butler & Crispe
,,	9	United S. Co.

Citrate of Lime—

B. W. Ind.,	£437	Fellows, Morton & Co.

Coal Products—

Aniline			
Belgium,	14 pks.		Friend & Co.
,,	28	4 cs.	John Cockerill Line
Germany,	6 cks.	2	L. & I. D. Jt. Co.
Naphthaline			
Belgium,	£65		J. Owen
Pitch			
Germany,	36 brls.		Fellows, Morton & Co.
N. Russia,	400		,,
Germany,	40		J. Johnson
Tar			
Germany,	30 brls.		Linck, Moeller & Co.

Copper Ore—

Natal,	38 t.	J. T. Rennie, Son & Co.

Cream of Tartar—

France,	4 cks.	Fuerst Bros.
,,	28	W. C. Bacon & Co.
,,	1	B. & F. Wf. Co.

Dextrine—

Holland,	3 t.	J. Barber & Co.

Dyestuffs—

Cochineal			
Canary Is.,	4 bgs.		Sperling & Williams
,,	2		L. & I. D. Jt. Co.
Cutch			
Burmah,	750 bxs.		Union L. Co.
Extracts *(otherwise undescribed)*			
U.S.A.,	£599		H. Langford
France,	20 cks.		T. H. Lee
Gambier			
Straits,	255 bls.		Leach & Co.
,,	254		Dalton & Young
,,	256		France, Fenwick & Co.
,,	254		Sollas & Son

Dyestuffs—

Indigo			
E. Indies,	23 chts.		L. & I. D. Jt. Co.
Myrabolans			
E. Indies,	211 pks.		Wrightson & Son
,,	1,370 bgs.		J. Greig
,,	581		E. J. Winser & Co.
Myrabolan Extract			
E. Indies,	818 cs.		J. W. Cook & Co.
Cakwo Extract			
France,	500 cks.		L. I. Levinstein & Sons
Quebracho			
Arg. Rep.,	22 t.		W. H. Mitchell
Saffron			
Spain,	1 cs.		H. Rubech
Sumac			
Italy,	500 bgs.		J. Kitchin
Tanners' Bark			
S. Aust.,	16 t.		J. F. & T. Powell
Natal,	50		Hoare, Wilson & Co.
,,	5		J. Graves
,,	46		T. J. & T. Powell
,,	53		J. T. Rennie, Son & Co.
Tannin Extract			
France,	50 brls.		Millers Tanning Ext. Co.
,,	10		R. E. Drummond & Co.
A. Hung.,	102		F. Claydon & Co.
,,	52		Boutcher, Mortimore & Co.
Turmeric			
E. Indies,	173 bgs.		Hale & Son
Vanilla			
Germany,	5 cks.		Prop. Hay's Wf.

Farina—

Holland,	5 t.	Van Dam & Co.

Felspar—

Germany,	£80	Ldn. & Rhine S. Office

Gas Oil—

U.S.A.,	1,429,120 gals.	Brit. Petroleum Co.

Gelatine—

Belgium,	£76	J. Cockerill Line
Holland,	40	Van Dam & Co.
,,	16	W. H. Muller & Co.

Glucose—

U.S.A.,	25 t. 500 bgs.	New Sun & Vanes Wvs.

Glue—

Holland,	£55	W. H. Muller & Co.
France,	66	G. T. Symons & Co.
Holland,	24	O. Murray & Co.
,,	15	Van Dam & Co.
N. Russia,	240	J. Greig
Belgium,	1,128	Major & Field
,,	180	J. Harrison
France,	190	,,
,,	700	Bennett S.S. Co.
,,	21	G. T. Symons & Co.
Holland,	81	Hernu, Peron & Co.
Germany,	7	L. & I. D. Jt. Co.
,,	20	H. Johnson, Son & Co.
Norway,	130	M. Dk. Co.
Belgium,	15	D. C. Thomas & Son
Holland,	8	H. Johnson, Sons & Co.
,,	18	W. H. Muller & Co.
N. Russia,	5	Venesta, Ld.
U.S.A.,	110	W. Langford

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Glue Stock—
Italy, 10 t. 2 c. H. C. Staples
Holland, 10 4 Boutcher, Mortimore & Co.
Belgium, 18 14
Victoria, 4 10 A.N. Nisbitt
N. Russia, 3 5 Elkan & Co.
France, 1 3 B. & F. Wf. Co.
N.S.W., 11 13 Anning & Cobb

Glycerine—
Victoria, £184 B. Hill & Sons
N. Zealand, £75 L. & I. D. Jt. Co.

Gutta Percha—
Germany, 5 t. 5 c. Bercsford & Co.

Gypsum—
France, 430 t. Lawes Chem. M. Co.

Infusorial Earth—
France, £85 C. Copper

Linseed Oil—
Holland, 260 brls. Robinson, Roberts & Co.

Lithopone—
Germany, 100 cks. A. Zumbech & Co.
Holland, 24 J. F. Laudervale
France, 7 J. L. Lyon & Co.

Magnesia—
Germany, £98 Craven & Co.

Magnesite—
Germany, £88 Argo S.S. Co.
Holland, 38 Barber & Co.
" 26 W.H. Muller & Co.

Manganese Ore—
E. Indies, 330 t. Mercantile L. Co.
Belgium, 10 G. S. M. Co.
" 10 Union L. Co.

Mineral White—
France, £18 Blackwell, Sons & Co.

Molasses—
U.S.A., 84 t. R.G. Hall & Co.
" 153 17 c. S. Devon Wf. Co.

Olive Oil—
France, 189 g. Carter, Paterson & Co.
" 126 Litchfield & Soundy
Italy, 186 1 tun G. W. Largen
" 126 1 D. Hill & Hodgkinsons
" 126 C. S. Lovell & Sons
" 90 Nich's. Wvs.
France, 118 24 L. & I. D. Jt. Co.
" 60 Hernu, Peron & Co.
" 30 J. Travers & Son

Paraffin Scale—
U.S.A., 912 t. 6 c. Anglo Amer. Oil Co.

Paraffin Wax—
E. Indies, 4 t. 19 c. H. Hill & Sons
Burmah, 10
U.S.A., 87 5 L. & I. D. Jt. Co.
" 12 9 Union Litharge Co.
" 76 10 Anglo Amer. Oil Co.
Holland, 3 9 Wilkins, Campbell & Co.
Germany, 14 Prop. Hay's Wf.
Burmah, 12 L. & I. D. Jt. Co.

Phosphate of Lime—
France, 430 t. Hunter, Lomer & Co.

Plumbago—
Holland, 7 cs. Hernu, Peron & Co.
U.S.A., 60 cks. Thredder, Sons & Co.
Ceylon, 170 brls. G. R. Haller
Italy, 117 250 bgs. Thredder, Sons & Co.
Ceylon, 126 Bramwell & Co.
" 402 Thredder, Sons & Co.

Potassium Carbonate—
Germany, 25 cks. J. M. Steel & Co.
France, 14 Petri Bros.
Holland, 10 R. W. Greeff & Co.
Canada, 8 brls. Charles & Fox

Potassium Chlorate—
Belgium, 40 brls. G. Boor & Co.

Potassium Prussiate—
France, 18 cks. J. Owen
Germany, 6 "

Potassium Sulphate—
Germany, 50 bgs. Bessler, Waechter & Co.

Pyrites (Copper)—
Spain, 2,000 t. C. Tennant, Sons & Co.

Quinine—
Germany, 25,000 ozs. W. H. Muller & Co.

Red Lead—
France, 105 brls. J. Watt & Son
" 93 "
Belgium, 38 cks. J. L. Lyon & Co.
" 1
Holland, 9 W. Harrison & Co.
" 8 F. T. H. Nye
" 1 W.H. Muller & Co.
" 38 London & Germany, Rhine S. Office

Ripolin—
Holland, 96 pks. Phillipps & Graves

Rosin—
Spain, 90 brls. Vokins & Co.
U.S.A., 990 Rosin & Turp. Import Co.
France, 115 Watt & Son
Holland, 68 cs. Van Dam
" 27 pks. & Co.

Saltpetre—
Germany, 35 t. 11 c. P. Hecke & Co.

Silver Ore—
U.S.A., 12 t. B. Ackerley & Son

Soap—
U.S.A., £68 Maritime Litharge Co.
" 319 W. Davis
" 465 Prop.
" Dowgate Dock
" 108 Lunham & Moore
" 120 Amer. Express Co,
" 58 Beresford & Co.
France, 36 Mory & Co.
" 6 Rosenberg,
" Loewe & Co.
Holland, 34 W.H. Muller & Co.
Italy, 100 Barber & Co.
" 62 Coppo & Co.
Norway, 24 Hansen & Co.
Germany, 7 L. & I. D. Jt. Co.
Belgium, 27 J. Cockerill Line
" 28 B. & F. Wf. Co.

Soda—
Holland, 5 t. 10 c. J. M. Sieeello
" 1 2 Barber & Co.
Germany, 5 Prop. Hay's Wf.
" 10 3 T. H. Lee
Holland, 10 10 A. Rempin
" 10 10 Pesri Bros.
Germany, 10 Fellows, Morton & Co.
" 2 T. H. Lee
" 4 A. & M. Zimmermann

Soda Ash—
Holland, 10 t. R. Green

Soda Crystals—
Holland, 60 t. P. Windmuller & Co.
Belgium, 25 G. A. Loos & Co.

Sodium Acetate—
Belgium, 10 t. J. Harrison

Sodium Bicarbonate—
Germany, 20 t. H. Finkler & Co.

Starch—
Germany, 13 t. M. Dk. Co.
" 15 Bennett's Haulage Co.
France, 5 A. C. Hitchcock
" 15 15 c. C. E. Wood

Starch—
Holland, 5 c. T. & G. Angel & Co.
" 24 t. 14 W. H. Muller & Co.
" 45 Little & Johnston
" 9 5 J. Barber & Co.
Belgium, 3 15 G. W. Sheldon & Co.
" 3 17 Leach & Co.
" 6 14 J. Harrison Little & Johnston
" 8 Bennett's Haulage Co.
U.S.A., 175 4 2 W. Grose & Co.
" 6 5 R. G. Hall & Co.

Sulphur—
Italy, 10 t. Sparks.
" 25 White & Co.
" 10 G. Boor & Co. Fellows, Morton & Co.
" 56 Vokins & Co.
" 30 T. Biggs
" 10 F. E. Symonds & Co.
" 10 L. & I. D. Jt. Co.

Sulphuric Acid—
Belgium, 200 t. Anglo-Cont. Guano Wks.

Stearine—
Belgium, 62 bgs. Hill & Sons
" 64 J. M. Baker
Holland, 26 bls. W. H. Muller & Co.

Tallow—
Victoria, 75 cks. Hill & Sons
" 116 Weber, Smith & Hoare
N.S.W., 248 J. Greig
" 148 Bessler, Waechter & Co.
" 62 Henderson, Graig & Co.
" 65 Lucas & Spencer's Wf.
N. Zealand, 682 Dalgety & Co.
" 299 Leach & Co.
" 75 Goad, Rigg & Co.
" 18 Phillipps & Graves
" 100 Thornett & Fehr
" 21 Sanderson, Murray & Co.
" 58 Lucas & Spencer's Wf.
" 176 L. & I. D. Jt. Co.
" 64 Anning & Cobb
" 40 Leach & Co.
" 145 J. Owen
" 84 Leete, Son & Co.
U.S.A., 1 J. Greig
France, Anning & Cobb
Queensland, 91 W.H. Muller & Co,
Holland, 14

Tartar—
Italy, £588 Fellows, Morton & Co.

Tartaric Acid—
Italy, 4 cks. B. & F. Wf. Co.
Holland, 7 W.H. Muller & Co.
" 7 Kirkpatrick, Barr & Co.
" 10 40 kgs. F. C. Devon & Co.
France, 4 B. & F. Wf. Co.

Thermit—
Holland, £50 J. Barber & Co.

Thorium Nitrate—
Germany, £2,038 Argo S.S. Co.

Tin Ore—
N.S.W., 5 t. Hoare, Wilson & Co.

Turpentine—
U.S.A., 3,862 brls. London Oil Storage Co.
France, 62 "
Italy, 100 J. Watt & Son

Ultramarine—
Holland, 12 cks. J. D. Budd
" 6 A. Foley & Co.
Belgium, 3 W. Harrison & Co.
Germany, 10 pks. Argos S.S. Co.
Holland, 32 W.H. Muller & Co.

Wax—
Germany, 5 bls. L. & I. D. Jt. Co.
" 117 bgs. 37 pks. Wallace Bros.
" 2 2 Major & Field
" 4 cs.
" 14 Props. Bull Wf.
" 20 21 pks. T. H. Lee
" 20 cs. Barber & Co.
" 12 pks. Clarke & Smith
Morocco, 112 Forwood, Bros. & Co.
" 31 London & Rhine S. Office
" 12 L. & I. D. Jt. Co.
Holland, 5 W. H. Muller & Co.
France, 57 bls. L. & I. D. Jt. Co.
B.W.I., 1 brl. Dalton & Young
Morocco, 7 serons Lough Bros.
U.S.A., 1 cs. Field & Co.
Japan, 1 Slann & Davis
Italy, 12 cks. United S. Co.

White Lead—
Germany, 5 cks. Argo S.S. Co.
" 13 S. Bowley & Son
" 44 Burrell & Co.
" 125 Spies Bros. & Co.
" 2 London & Rhine S. Office
Belgium, 55 T. & W. Farmiloe
" 41 Barrell & Co.
" 50 J. L. Lyon & Co.
Holland, 12 W. H. Muller & Co.
" 53 Burrell & Co.
" 18 Felton & Crepin
" 20 Lewis, Berger & Sons
" 26 J. L. Lyon & Co.
U.S.A., 1 R. W. Greeff & Co.
" 35 brls. J. Watt & Son
" 108 R. W. Greeff & Co.
" 71 Fenner, Alder & Co.

Zinc Ore—
Natal, 500 t. J. T. Rennie, Son & Co.

Zinc Oxide—
Holland, 92 brls. M. Ashby
U.S.A., 900 "
Holland, 10 cks. F. T. H. Nye
" 10 Van Dam & Co.
" 25 Spies, Bros. & Co.
Germany, 15 R. W. Greeff & Co.
" 50 Burrell & Co.
Queensland, 207 bgs. M. H. & J. E Matthews

Zinc White—
Belgium, 20 brls. W. Milburn & Co.

LIVERPOOL.

Week ending August 8.

Alum (Chrome)—
Hamburg, 5 cks.

Aluminium—
Quebec, 320 bxs.
Havre, 30 bgs. Cunard S.S. Co.

Antimony Ore—
A'fagasta, 444 bgs. Barber & Co.

Asbestos—
Genoa, 14 bls.
Rotterdam, 51 5 cs. 11 crts.

Barium Sulphate—
Antwerp, 252 cks.

Barytes—
Antwerp, 20 cks.
Rotterdam, 100 bgs.

Beeswax—
Hamburg, 24 cs.

Borate of Lime—
A'fagasta, 780 bgs.

Calcium Carbide—
Fredrikstad, 60 dms. H. Dalton

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Casein—
Hamburg, 21 bgs.
B. Ayres, 100

Castor Oil—
Antwerp, 14 brls.

Chemicals (*otherwise undescribed*)
Rouen, 64 cks. Co-op. W'sale Soc., Ld.

Coal Products—
Pitch
Archangel, 450 brls.
Tar
Archangel, 5,026 brls.

Colours—
Genoa, 57 pks.

Copper Ore—
Iquique, 518 bgs. Mitrovich Bros.
A'fagasta, 1,100 Bank Ang-S. America
,, 1,359 Cie de Cobra de Ant.
P. Arenas, 769 Anglo-Amer. Bank

Copper (Regulus)—
Caldera, 500 t.

Cream of Tartar—
Bordeaux, 190 cks.

Dried Blood—
B. Ayres, 1,762 bgs. Liebig E.M. Co.

Dyestuffs—
Chestnut Extract
Leghorn, 150 brls.
Extracts (*otherwise undescribed*)
Genoa, 400 brls.
Bastia, 1,018
Quebracho Extract
B. Ayres, 6,400 bgs.
Tannin Extract
Bordeaux, 402 cks.
,, 508 R. J. Francis & Co.

Ferro Chrome—
Rouen, 23 cks. G. Blackwell, Sons & Co.

Ferro Silicon—
Fredrikstad, 81 cs. Bk. Griffin C. Iron Co.

Glue—
Rouen, 1 ck. 7 cs. Co-op. W'sale Soc., Ld.
Antwerp, 10 40 bls.

Glycerine—
Hamburg, 10 cs.

Mineral White—
Bordeaux, 200 bgs.

Olive Oil—
Corfu, 20 cks.
Genoa, 50 cs. 50 pks.
Leghorn, 16

Oxalic Acid—
Hamburg, 5 cks.

Paraffin Scale—
Amsterdam, 565 bgs.
New York, 903 brls. Anglo-Amer. Oil Co.

Phosphate—
Ghent, 1,500 bgs.
Treport, 490 t.

Phosphate Rock—
Tampa, 1,100 t.

Phosphorus—
Boston, 20 cs.

Plumbago—
Genoa, 48 brls.

Potash—
Hamburg { 20 dms. 40 cs.
Rouen, 44 cks. Co-op. W'sale Soc., Ld.

Potash Lye—
Hamburg, 40 dms.

Pyrites (Iron)—
Huelva, 2,000 t.

Rosin—
Bayonne, 1,327 cks.
Fernandina, 12,835 brls.
Bordeaux, 700
Lisbon, 57
Valencia, 30 Rodriguez, Leva & Co.

Rubber—
Constantinople. 1 pk.
Manaos, 300 cs.
Para, 672 220

Rubber—
New York, 7 brls.
Landana, 1 Hatton & Cookson
Ambrizette, 29 bgs. ,,
Duala, 2 cks. J. Holt & Co.
Calabar, 1 R. Hamilton & Co.
,, 3 T. Welsh & Co.
,, 3 Miller Bros. & Co.
,, 1 African Assocn., Ld.
Cape Coast, 1 butt ,,
,, 1 J. J. Fischer & Co.
,, 1 brl. Russell
,, 1 cs. & Co.
Sekondi, 2 Miller's, Ld.
,, 2 H. B. W. Russell & Co.
Antwerp, 11 bgs.
Montreal, 297 bxs. S. Hilton
Havre, 13 brls. Cunard S.S. Co.
Odessa, 12 cs.
Hamburg, 4 92 bls.

Saltpetre—
Hamburg, 15 cks.

Salt (Waste)—
Hamburg, 100 t.

Soap—
New York, 200 brls.
N. Orleans, 887
Rotterdam, 1 cs.
Marseilles, 5
Genoa, { 139 12 cks.

Soapstone—
Genoa, 300 bgs.

Sodium Sulphate—
Antwerp, 31 cks.

Starch—
Ghent, 40 cs. Fletcher & Co.
Antwerp, 20 ,,
,, 199
Rotterdam, 10
Hamburg, 52
New York, { 420 bgs. 325 bxs.
P'delphia, 50 150 brls.

Sulphur—
Catania, 300 pks. Braun & Blanchard
,, 200

Superphosphate—
Antwerp, 100 bgs.

Tallow—
New York, 78 tcs. Co-op.
,, 40 hhds. W'sale Soc., Ld.
,, 50 tcs.
Boston, 200
P'delphia, 623
B. Blanca, 553 cks.
B. Ayres, 567
,, 571
,, 285 brls. Hamburg. Ludcock S.S. Co.

Turpentine—
Fernandina, 1,800 brls.

Ultramarine—
Hamburg, 2 cs.
Rotterdam, 20 cks.

Wax—
Boston, 10 brls.
New York, 150 Vacuum Oil Co.
Hamburg { 5 bgs. 150 cs.

White Lead—
Rotterdam, 88 cks.

Zinc Oxide—
New York, 300 brls.
Antwerp, 44
Rotterdam, 48 cks.

MANCHESTER.

Week ending August 10.

Acetic Acid—
Antwerp, 26 cks.

Ammonia—
P'delphia, 100 cylndrs.

Arsenic—
Antwerp, 6 cks.

Barytes—
Rotterdam, 30 cks.

Calcium Carbide—
Drammen, 558 dms.

Castor Oil—
Antwerp, 28 brls. Fletcher & Co.

Caustic Potash—
Gothenburg, 24 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 17 cks.
Bordeaux, 2 J. & P. Hutchison
Rouen, 38
Rotterdam { 140 bgs. 47 2 brls. 1 dm. 10 kgs.

Coal Products—
Alizarine
Rotterdam { 84 brls. 161 cks. 1 cs.
Aniline Colour
Rotterdam { 11 cs. 193 cks. 65 brls.
Beta Naphthol
Rotterdam, 2 brls.
Carbolic Acid
Philadelphia, 45 dms.
Carbolic Acid (Liquid)
Philadelphia, 4 cs.
Naphthaline
Antwerp, 5 pks. Fletcher & Co.

Colours—
Antwerp, 7 cks. Fletcher & Co.
Rotterdam, 24 1 cs.

Cresylic Acid—
Rotterdam, 9 cks.

Dyestuffs—
Dyewood Extract
Philadelphia, 60 brls.
Extracts (*otherwise undescribed*)
Bordeaux, 301 cks. J. & P. Hutchison
Tannin
Hamburg, 1 ck.
Antwerp, 5

Farina—
Hamburg, 100 bgs.
Rotterdam, 427

Formaldehyde—
Rotterdam, 5 crbys.

Gelatine—
Antwerp, 22 bls.

Glue—
Treport, 20 bls.
Antwerp, 93
Rouen, 25 cks.
Rotterdam, 300 bgs.

Indigo Paste—
Rotterdam, 82 brls.

Litharge—
Rotterdam, 19 cks.

Magnesia—
Philadelphia, 31 brls.
Hamburg, 5 cs.

Mineral White—
Bordeaux, 150 bgs. J. & P. Hutchison
,, 100 G. J. Blackwell & Co.

Paraffin Scale—
Philadelphia, 650 brls.

Paraffin Wax—
Philadelphia, 128 brls.
Hamburg, 20 bgs.

Potash—
Hamburg, 10 cks.

Potassium Chlorate—
Antwerp, 8 brls.

Pctassium Prussiate—
Rotterdam, 6 cks.
Antwerp, 30 Fletcher & Co.

Rubber—
Treport, 4 cks.

Salt (Waste)—
Hamburg { 150 t. 102 cks.

Soap—
Philadelphia, 4,999 bxs.
Rotterdam, 2 cs.

Sodium Acetate—
Antwerp, 36 cks. Fletcher & Co.
,, 48 brls.

Sodium Chlorate—
Gothenburg, 8 cks.
Treport, 24

Sodium Nitrite—
Rotterdam, 19 cks.

Sodium Phosphate—
Antwerp, { 17 cks. 17 brls.

Starch—
Philadelphia, 2,365 bgs.
Ghent, 40 cs.
Hamburg, 40 cks.
Antwerp, 350 J. F. Fletcher & Co.
,, 340
Rotterdam, 70

Tin Chloride—
Rotterdam, 10 cks.

Ultramarine—
Rotterdam, { 11 cks. 52 cs.

Zinc Oxide—
Antwerp, 8 brls.
,, 20 Fletcher & Co.

HULL.

Week ending August 10.

Acetic Acid—
Fredrikstad, 51 cks. Wilson, Sons & Co., Ld.
,, 161

Antimonin—
Rotterdam, 9 cks. Hull & N. S.S. Co.

Barytes—
Antwerp, 61 cks. Wilsons & N.E.R. S. Co.
Rotterdam, 7 Hull & N.
,, 650 bgs. S.S. Co.
Bombay, 100 ,,
Antwerp, 750

Caustic Potash—
Antwerp, 17 dms.
Bremen, 59 Wilson, Sons & Co., Ld.

Chemicals (*otherwise undescribed*)
Rotterdam, 4 cs. H. & B. & Rly. S.S. Line
Bremen, 6 cks. Hull & N. S.S. Co.
Dunkirk, 100
Rotterdam, 5 pks. 4 ,,
Rouen, 20
,, 12 cks. Wilsons & N.E.R. S. Co.

Coal Products—
Alizarine
Rotterdam, 22 brls. B. & B. Rly. S.S. Line
,, 8 15 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 89 pks. Hull & N.
7 brls. S.S. Co.
Pitch
Antwerp, 4 cks.
Tar
Wyburg, 150 cks,
Tar Oil
Rotterdam, 80 cks. Hull & N. S.S. Co.

Colours—
Bremen, 41 tins Veltmann & Co.
1 bx.
Antwerp, 65 pks.
,, 57 Wilsons & N.E.R. S. Co
Rotterdam, 68 Hull & N. S.S. Co.

Dyestuffs—
Myrabolans
Bombay, 1,043 bgs.
Quebracho
Antwerp, 1,700 bgs.

Farina—
Stettin, 190 bgs. Wilson, Sons & Co., Ld.

Ferro Silicon—
Gothenburg, 33 cs. Wilson, Sons & Co., Ld.

Glue—
Rotterdam, 20 bgs. Hull & N. S.S. Co.
Rouen, 10 cs.

Glucose—
New York, 1,380 bdls.

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Glue Stock—
Bergen, 25 bls. Wilson, Sons & Co., Ld.
S.Petersburg, 60

Linseed Oil—
Antwerp, 64 brls.

Litharge—
Rotterdam, 15 cks. Hull & N. S.S. Co.

Magnesium Chlorate—
Hamburg, 45 brls. Wilsons & N.E.R. S. Co.

Oleine—
Antwerp, 1 ck. Wilsons & N.E.R.S. Co.

Paraffin Wax—
New York, 692 brls.

Potash—
Dunkirk, 21 cks. Wilsons &
" 4 dms. N.E.R.S.Co.
Hamburg, 17 "

Potassium Prussiate—
Danzig, 12 cks.

Soap—
Bremen, 5 t. Veltmann & Co.
Rotterdam, 6 cks. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 54 bgs.

Starch—
Antwerp, 219 cs.
Ghent, 20 Wilsons & N.E.R. S. Co.
Bremen, 10 cks. Veltmann
" 941 & Co.

Tallow—
Antwerp, 13 bgs.

Tartaric Acid—
Rotterdam, 6 cks. Hull & N.
6 pks. S.S. Co.

White Lead—
Rotterdam, 63 cks. Hull & N. S.S. Co.

Zinc—
Dunkirk, 12 cs. Wilsons & N.E.R. S. Co.

Zinc Oxide—
Antwerp, 50 brls.
New York, 150

Zinc White—
Rotterdam, 25 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending August 15.

Acetic Acid—
Christiania, 3 brls.

Ammonia—
Hamburg, 100 btls.

Alcohol (Wood Spirit)—
Philadelphia, 250 brls.

Asbestos—
Rouen, 10 bls.

Barium Sulphate—
Antwerp, 65 cks. 300 bgs.

Barytes—
Rotterdam, 57 cks.

Bog Ore—
Delfzyl, 78 t.

Borax—
Rotterdam, 2 cks.

Calcium Carbide—
Christiania, 100 dms.

Castor Oil—
London, 44 cks.

Chemicals (*otherwise undescribed*)
Amsterdam, 4 brls.
Rotterdam, 12 / 8 cs.

Coal Products—
Alizarine
Rotterdam, 67 pks. 7 brls.
Aniline
Rotterdam, 1 cs.
Pitch
Hamburg, 20 cs.

Colours—
Rotterdam, 221 pks.
Antwerp, 5

Cream of Tartar—
Valencia, 10 brls.

Dyestuffs—
Tannin
Antwerp, 1 ck.
Hamburg, 2

Farina—
Delfzyl, 1,480 bgs.

Fish Oil—
New York, 300 brls.
Hamburg, 1 cs.

Glucose—
New York, 360 brls.

Lead Nitrate—
Rouen, 10 cks.

Linseed Oil—
Amsterdam, 224 brls.
Amsterdam, 60

Lithopone—
Rotterdam, 104 cks.

Mineral Wax—
Hamburg, 20 bgs.

Oleine—
Antwerp, 5 cks.
Rotterdam, 2

Oxalic Acid—
Hamburg, 11 cks.

Potash—
Libau, 70 cks.

Potash Lye—
Hamburg, 25 dms.

Paraffin Scale—
New York, 189 brls.

Paraffin Wax—
Montreal, 113 brls.

Rosin—
Rotterdam, 185 bgs.
Leith, 85 t.

Soap—
Philadelphia, 1,500 bxs.

Soap Oil—
Montreal, 1 cs.

Soap Powder—
New York, 1,000 bxs.

Soap Stock—
Baltimore, 169 brls.

Soda—
Rotterdam, 2 bgs.
Hamburg, 5 cks.

Soda Crystals—
Ghent, 150 bgs.

Starch—
Rotterdam, 54 cs.
Amsterdam, 40
New York, 1,200 bgs.

Stearine—
Antwerp, 126 bls.

Tartaric Acid—
Rotterdam, 8 cs.
Genoa, 20 brls.

Wax—
Baltimore, 272 brls.
Hamburg, 1 bg.

White Lead—
Rotterdam, 97 cks.
Antwerp, 28
New York, 12 brls.

Zinc Oxide—
Hamburg, 73 cks.
Antwerp, 30 brls.

TYNE.

Week ending August 10.

Acetic Acid—
Antwerp, 26 cks. Tyne S.S. Co.

Barytes—
Antwerp, 230 bgs. Tyne S.S. Co.
Rotterdam, 65 cks.
300 "

Barytes (White)—
Rotterdam, 12 cks. Tyne S.S. Co.

Bauxite—
Bordeaux, 300 t. D. Pochin & Co.

Castor Oil—
Antwerp, 20 brls. J. Arnott & Son

Colours—
Rotterdam, 2 brls. Tyne S.S.Co.

Copper Oxide—
Hamburg, 16 dms. Tyne S.S.Co.

Copper (Precipitate)—
Huelva, 224 t. The Tharsis S. & C. Co.

Soda Crystals—
Ghent, 200 bgs. Tyne S.S. Co.

Starch—
Antwerp, 161 cs. Tyne S.S. Co.

Stearine—
Rotterdam, 10 bgs. Tyne S.S. Co.

Sulphur (Pyrites)—
Huelva, 1,215 t. The Tharsis S. & C. Co.

Ultramarine—
Rotterdam, 1 ck. Tyne S.S. Co.

Zinc White—
Rotterdam, 10 cks. Tyne S.S. Co.

GOOLE.

Week ending August 10.

Alumina Sulphate—
Ghent, 250 bgs
Antwerp, 1 cs.

Antimony—
Boulogne, 3 cks.

Barytes—
Hamburg, 80 cks.
Rotterdam, 45
Antwerp, 32 290 bgs.

Caustic Potash—
Hamburg, 36 dms.

Coal Products—
Alizarine
Rotterdam, 9 brls.
Creosote Salts
Rotterdam, 12 cks.
Naphthol
Rotterdam, 5 bgs.
Tar Salts
Hamburg, 17 cks.

Colours—
Hamburg, 12 cks.
Antwerp, 37 pks.

Dyestuffs (*otherwise undescribed*)
Boulogne, 24 cks. 5 cs.
Hamburg, 489 15
Rotterdam, 273 155

Dyestuffs—
Indigo (Synthetic)
Rotterdam, 3 brls.

Farina—
Hamburg, 300 bgs.
Delfzyl, 1,434

Formic Acid—
Hamburg, 28 cks. 140 crbys.

Glue—
Hamburg, 3 cks.

Magnesite—
Amsterdam, 150 bgs.

Magnesium Carbonate—
Hamburg, 20 cs.

Oleine—
Antwerp, 8 cks.

Olive Oil—
Kuluk, 301 cks. 12 brls.

Phosphate of Lime—
Boulogne, 915 bgs.

Plumbago—
Boulogne, 1 ck.

Potassium Carbonate—
Antwerp, 10 dms.

Pyrites (Copper)—
Pomaron, 1,427 t.

Salt—
Hamburg, 2 cs.

Saltpetre—
Antwerp, 135 bgs.

Salt (Waste)—
Hamburg, 1,005 cks.

Sodium Chromate—
Rotterdam, 24 cks.

Sodium Hyposulphate—
Boulogne, 4 cs.

Starch—
Dunkirk, 260 bxs.

Tartaric Acid—
Rotterdam, 2 cks.

Wax—
Hamburg, 50 cs.

Wolfram Ore—
Rotterdam, 10 cs.

GRIMSBY.

Week ending August 7.

Barytes—
Antwerp, 50 bgs.

Calcium Carbide—
Christiania, 20 dms.

Chemicals (*otherwise unaescribed*)
Hamburg, 3 cs.
Antwerp, 5

Coal Products—
Pitch
Antwerp, 25 brls.

Colours—
Rotterdam, 5 cks.
Hamburg, 7
Antwerp, 86 pks.

Dextrine—
Hamburg, 2 cs.

Dyestuffs (*otherwise undescribed*)
Hamburg, 7 cks.

Ferro Silicon—
Antwerp, 13 cks.

Gelatine—
Hamburg, 3 cs.

Glue Stock—
Antwerp, 42 brls.

Starch—
Antwerp, 60 cs.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 14.

Alcohol (Wood Spirit)—
Bordeaux, 438 gallons

Alum—
B. Ayres, 19 c. £6
Melbourne, 1 t. 7

Alumina Sulphate—
B. Ayres, 60 cks. £77

Ammonia—
Adelaide, 5 cs. £15
E. London, 2 6
Delagoa Bay, 6 6 c. 47
Calcutta, 9 14
Melbourne, 60 162
Vancouver, 6 pks. 6

Ammonia—
Albany, 2 cs. £5
Tokio, 6 13
Sydney, 5 15
Shanghai, 7 13
Bombay, 2 6
Dunedin, 26 76
Lyttelton, 26 76
Durban, 3 10

Ammonia—
Wellington, 32 cs. £84
Ghent, 4 5
Cape Town, 12 20
Paramambo, 1 2
Bangkok, 5 5
Algoa Bay, 10 15

Ammonia (Anhydrous)—
Alexandria, 1 cs. £10

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Ammonia (Anhydrous)—
Colombo, 6 cs. £19

Ammonium Carbonate—
Hamburg, 1 kg. £40
Auckland, 3 cs. 6
Aarhus, 10 cks. 29
Penang, 6 7
Bombay, 7 18
Sydney, 5 16
B. Ayres, 100 275
Algoa Bay, 5 10
Cologne, 11 50
Odessa, 20 29
Kobe, 25 75
Havana, 10 85

Ammonium Fluoride—
Demerara, 16 cks. £126

Ammonium Muriate—
Cologne, 2 t. 10 c. £58
Auckland, 2 5 60

Ammonium Nitrate—
New York, 12 cks. £97

Ammonium Sulphate—
Yokohama, 50 t. £595
Carthagena, 492 6,000
Mauritius, 200 1 c. 2,476
Madeira, 20 8 250
Kobe, 204 14 2,756

Antimony (Regulus)—
Genoa, 15 t. £20
Naples,
New York, 15 6 c.

Antimony Sulphate—
Boulogne, 5 cks. £73

Arseniate of Lime—
New York, 13 cks. £20

Arsenic—
Osaka, 20 kgs. £36

Asbestos—
Montreal, 14 t. 16 c. £14
Rio de Jan., 63
Calcutta, 8
Madras, 9
Otago,

Barium Sulphate—
Adelaide, 5 t. 12 c. £20

Bismuth—
Yokohama, 15 cs. £330
Kobe, 14 310

Bone Meal—
Hamburg, 50 t. £240

Bone Superphosphate—
Las Palmas, 10 t. £38

Bones—
Dunkirk, 26 t.

Boracic Acid—
Karachi, 6 c. £9

Borax—
Madras, 2 c. £6
Cape Town, 10 8

Caustic Soda—
Cape Town, 10 c. £7
Hamburg, 4 5
Stockholm, 1 t. 10 15

Chalk—
Yokohama, 3 t.
Bordeaux, 6
Boston, 300
Calcutta, 50

Chemicals (*otherwise undescribed*)
Bombay, 3 cs. £11
Lisbon, 75 pks. 56
Trinidad, 2 14
Durban, 8 64
Karachi, 2 11
Copenhagen, 2 69
Boulogne, 8 cks. 40
Barcelona, 5 10
Shanghai, 10 18
Colombo, 1 9
E. London, 4 10
Tientsin, 2 26
Rotterdam, 41 2 dms. 81
Cologne, 15 53
Toronto, 186 484
Montreal, 52 2 318
Hamburg, 11 19
Sydney, 209 290
Ostend, 1 8
Cape Town, 19 pks. 15
Calcutta, 5 28
Madras, 3 48
Beira, 6 6
H. Kong, 4 63
Delagoa Bay, 20 36
Jamaica, 3 6 29
Amsterdam, 105 cks. 164
Yokohama, 50 60
Konigsberg, 20 74
Algoa Bay, 10 kgs. 3 11
Melbourne, 20 36

Citric Acid—
Bluff, 1 c. £11
Christiania, 5 52
Wellington, 4 cs. 35
Hamburg, 11 80
Bombay, 6 58
Gijon, 4 41
Montreal, 6 52
Cape Town, 1 11
Colombo, 1 9
Auckland, 2 20
Durban, 2 20
Alexandria, 4 40
Philadelphia, 10 t. 1,960

Citric Acid (Crystals)—
Jamaica, 5 c. £53

Coal Products (*otherwise undes.*)—
Algoa Bay, 1,165 pks. £16
Sydney, 5 cs. 8

Coal Products—
Alizarine
Dunedin, 8 kgs. 1 cs. £156
Bombay, 17 cks. 105
Alizarine Dye
Christchurch, 3 cks. 3 kgs. 1 cs. £87
Aniline Colours
Dunedin, 2 cks. £46
Aniline Dye
Copenhagen, 1 kg. £7
Boulogne, 10 pks. 89
Melbourne, 3 cs. 62
Christiania, 2 13
Aniline Oil
Genoa, 10 dms. £275
Anthracene
Cologne, 503 bgs. £390
Benzine
Teneriffe, 3 cs. £6
Benzol
Paris, 50 cks. £000
Carbolic Acid
Amsterdam, 75 cks. £252
Rotterdam, 196 689
B. Ayres, 3 10
Demerara, 7 12
Melbourne, 40 dms. 16
Algoa Bay, 1 cs. 8
Antwerp, 7 15
Boston, 13 81
Hamilton, 3 8
Los Angeles, 8 60
Carbolic Acid (Crystals)
Wellington, 3 cs. £11
Auckland, 40 pks. 9
Philadelphia, 3 80
Carbolic Acid (Powder)
Wellington, 3 cks. £4
Calcutta, 3 cs. 10
Creosote Salt
Antwerp, 30 t. 6 c. £53
Lythene
Gibraltar, 8 brls. £54
Naphthaline
Melbourne, 20 cs. £18
Tientsin, 34 cks. 21
E. London, 9 16
P. Elizabeth, 9 17
Pitch
Auckland, 29 pks. £14
Melbourne, 31 9
Bombay, 4 brls. 11
Tar
Durban, 30 dms. £6
Montreal, 2 cks. 27
Delagoa Bay, 100 kgs. 14
Sandakan, 19 brls. 15
Freemantle, 25 dms. 5
Melbourne, 25 cks. £26
Toluol
Paris, 31 dms. £170
New York, 61 440

Copper Sulphate—
Calcutta, 5 t. £147
E. London, 11 c. 19
Auckland, 5 10
Bluff, 10 16
Shanghai, 1 15 59
Kilindini, 6 8
Algoa Bay, 5 6
Teneriffe, 7 13

Cottonseed Oil—
Rotterdam, 28 t. 5 c.
Bordeaux, 33 18
Sydney, 8

Cream of Tartar—
Pernambuco, 1 c. £5
Melbourne, 10 40
Brisbane, 5 21

Cyanide (*otherwise undescribed*)—
Beira, 10 t. 8 c. £833
New York, 5 17 440

Disinfectants—
Karachi, 110 dms. £13
Bombay, 600 3 cs. 70
Bordeaux, 30 cks. 40
Tientsin, 21 12
New York, 27 pks. 111
Boston, 24 573
Sydney, 7 20
Singapore, 60 11 97
Demerara, 1 ck. 6
Shanghai, 4 15 47
Melbourne, { 12 100 20 / 90 brls. } 162
Cologne, 15 268
Kingston, 1 ck. 7
Canterbury, 55 24
Wellington, 1 5
Calcutta, 3 brls. 6
Dunedin, 7 20
Otago, 19 31
Cape Town, 675 8 187
E. London, 20 45
Hamburg, 12 cks. 49
Berbice, 4 7
Timaru, 20 kgs. 5
Adelaide, 2 6
Zanzibar, 10 cks. 35
Madras, 42 bgs. 2 20
Penang, 10 13
Colombo, 15 21
Channel Is., 3 pks. 6
Algoa Bay, 60 cks. 2 36

Dried Blood—
Mauritius, 98 t. 1 c. £987

Fertiliser—
Riga, 700 t. £1,794
Durban, 4 5 c. 80
New York, 1 11 18

Fish Oil—
Bordeaux, 10 t. 5 c.

Formaldehyde—
Demerara, 6 cbys. £19

Glycerine—
Alexandria, 2 cs. £6
New York, 17 t. 11 c. 615
B. Ayres, 2 8
E. London, 7 19

Hydrochloric Acid—
Cape Town, 2 c. £6

Iron Carbonate—
Boston, 1 cs. £7

Lactic Acid—
Algoa Bay, 6 c. £9

Linseed Oil—
Antwerp, 6 c.
Auckland, 6 t.
Barbadoes, 5
Beira, 4
Calcutta, 3 19
Colombo, 2 13
Delagoa Bay, 6
Durban, 6
Fremantle, 6
Greymouth, 1 8
H. Kong, 4 13
Jamaica, 7 15
Madras, 1 10
Melbourne, 4 6
Napier, 4 18
Penang, 1 18
P. Elizabeth, 1 2
Rio de Jan., 20 8
Santos, 5 18
Sydney, 2 17
Timaru, 2 17
Townsville, 14
Trinidad, 1 1
Vera Cruz, 10 3
Wellington, 5
Yokohama, 1
Alexandria, 1 11
Bangkok, 3 10
Bermuda, 4
Bluff, 4
Cebu, 10
E. London, 4
Hamburg, 1 1
Kobe, 4 18
Manilla, 4
Monte Video, 14
Montreal, 10 5
Mozambique, 14
Port Alegre, 2 12
Rio Grande, 1 14
St. Kitts, 13
Singapore, 12 7
Wellington, 5

Lithium Carbonate—
Sydney, 1 cs. £68

Magnesia (Calcined)—
Lisbon, 1 cs. £20

Manure—
Boston, 3 t. 6 c. £51
Napier, 50 158
Lyttelton, 152 11 400
Wellington, 50 18 165
N. Plymouth, 15 5 50
Monte Video, 2 15
Madeira, 20 137
Timaru, 325 1,089
Kobe, 50 358
Paris, 5 5 38
Genoa, 65 455
New York, 2 28

Nickel Sulphate—
Melbourne, 2 cs. £10

Nitric Acid—
Cape Town, 3 c. £5
Brisbane, 1 t. 11 16

Oxalic Acid—
Sydney, 8 cks. 1 brl. £76
New York, 1 8
Otago, 3 pks. 6
Algoa Bay, 3 kgs. 6

Phosphate (Precipitate)
Mauritius, 51 t. 15 c. £264

Phosphoric Acid—
Mauritius, 25 t. £360

Phosphorus—
Sydney, 12 cs. £80
Otago, 12 79
Sydney, 16 115
B. Ayres, 3 33

Plumbago—
Danzig, 2 t. 19 c.
Durban, 5
Shangoai, 1 10

Potash—
Alexandria, 2 c. £6
Melbourne, 3 16
Calais, 11 38

Potassium Phosphate—
Melbourne, 2 t. 5 c. £70

Quinine—
Calcutta, 6,000 ozs.

Salammoniac—
Sydney, 4 c. £8
Auckland. 3 5

Salicylic Acid—
Yokohama. 5 cs. £50
Cape Town, 1 3

Salt—
Delagoa Bay, 2 t.
Durban, 1
E. London, 2
Fremantle, 2
Timaru, 7
Danzig, 8
Delagoa Bay, 3
Otago, 80

Saltpetre—
Santos, 8 t. 3 c. £211
Bahia, 1 9 39
Melbourne, 17 429
Amsterdam, 1 16 33
Dunedin, 1 2 27
Sydney, 2 17 77

Sheep Dip—
Sydney, 2 t. £64
Delagoa Bay, 3 c. 51
Hamburg, 6 cs. 13
Vancouver, 3 5
B. Ayres, 50 11 1,400
Durban, 5 dms. 22
Wellington, 50 20
Algoa Bay, 8 425

Silver Nitrate—
Cape Town, 1 cs. £12
Auckland, 1 17

Soap—
Auckland, 2 t. 10 c.
Barbadoes, 1
Bombay, 4 1
Beira, 1 6
Brisbane, 5
Cairns, 1
Calcutta, 13
Channel Is., 13
Colombo, 7
Durban, 2 15
Flushing, 3
Jamaica, 7
Karachi, 6
Mauritius, 12
Rangoon. 10
Rotterdam, 9 10
St. Kitts, 13
Sydney, 19
Tientsin. 5
Vancouver, 1
Vera Cruz, 3

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Soap—
Aden, 1 c.
Antwerp, 1 t 6
Boston, 11 19
Boulogne, 17
Bremen, 3
Brussels, 2
C. Town, 2
Delagoa Bay, 3
E. London, 6
Ghent, 1
Gibraltar, 11
Hamburg, 10
H. Kong, 1 4
Halifax, 7
Invercargill, 2
Limon, 4
Lisbon, 6
Madras, 1 4
Malta, 2
Manilla, 8
Melbourne, 1
Ostend, 11
Otago, 1 3
Penang, 4
P. Elizabeth, 2
St. Petersburg, 8
Shanghai, 12 1
Tampico, 5
Timaru, 11
Tientsin, 2
Vera Cruz,

Soap Extract—
Durban, 10 c.

Soap Lye—
Amsterdam, 20 t. £619

Soap Powder—
Auckland, 3 t. 13 c.
Lyttelton, 1 17
Napier, 2 1
Otago, 1 9
Wellington, 1 12

Soda—
Wellington, 4 c. £5

Sodium Bicarbonate—
Fremantle, 10 c. 67
Algoa Bay, 8 6
Perth, 2 5

Sodium Cyanide—
Fremantle, 4 t. £334

Sodium Tartrate—
Paris, 11 c. £31

Starch—
Auckland, 9 t. 9 c.
Barbadoes, 3
Brisbane, 7 15
Channel Is., 10
Delagoa Bay, 3 3
Durban, 10 15
Fremantle, 1 1
Karachi, 10
Melbourne, 6 9
Napier, 2 5
Rockhampton, 2
St. Petersburg, 2 14
Sydney, 4 10
Townsville, 6 10
Wellington, 1 5
Otago, 1 15
Beira, 2
Bluff, 1 3
Auckland, 14
Timaru, 2

Strontium Nitrate—
Calcutta, 20 kgs. 60 cs. £63

Sulphur—
Pernambuco, 10 t. £110
Algoa Bay, 4 4 c. 152
200 kgs.
Cape Town, 1 t. 16 20

Sulphur Compound—
B. Ayres, 78 t. 3 c. £735

Sulphuric Acid—
Algoa Bay, 6 t. £45
Berbice, 5 5 c. 20
Demerara, 7 9 51
Durban, 3 15 79
Colombo, 1 10 16
H. Kong, 4 13 22
Bombay, 4 6

Superphosphate—
Timaru, 25 t. £79
Mauritius, 98 4 329

Superphosphate of Lime—
Lisbon, 300 t. 10 c. £731

Tallow—
Danzig, 43 t. 8 c.
Rotterdam, 35
Antwerp, 39 8
B. Ayres, 1 15

Tartaric Acid—
Jamaica, 1 c. £6
Dunedin, 4 27
Copenhagen, 2 13
Auckland, 3 16
Durban, 2 10
Manilla, 1 5
Algoa Bay, 2 11
Calcutta, 1 5

Wax—
Saigon, 2 t. 2 c.
Stockholm, 2

White Lead—
Adelaide, £277
Melbourne, 712
Otago, 191
Calcutta, 117
H. Kong, 27
Yokohama, 47
Delagoa Bay, 20
Auckland, 28
C. Town, 12
E. London, 11
New York, 268
P. Elizabeth, 247
Sydney, 899

Wolfram—
Hamburg, a qty.

LIVERPOOL.

Week ending August 14.

Acetic Acid—
Bombay, 1 t. 6 cs. £25
Tampico, 3 c. 4
Malaga, 1 4 52
Lisbon, 1 9

Alum—
M. Video, 1 t. 18 c. £10

Alumina Sulphate—
Calcutta, 10 t. £60

Alumino Ferric—
S. Nicolas, 10 t. 3 c. £33

Aluminous Sulphate—
B. Ayres, 16 t. 1 c. £94
Natal, 20 9 70

Ammonia—
Accra, 4 cs. £2
Lagos, 2 4
Sekondi, 1 t. 12 c. 51
2 cs.
Cadiz, 18
Belize, 2 3

Ammonia (Anhydrous)—
P. Elizabeth, 1 cs. £3

Ammonium Carbonate—
Yokohama, 3 t. 10 c. £122
Oporto, 17 29
Santos, 1 2 37
Rouen, 1 1 42
New York, 6 5 219
Montreal, 4 140
Philadelphia, 1 4 36
N. Orleans, 2 10 58
Rosario, 10 cs. 31
Valencia, 1 10 49
New York, 2 10 80
Melbourne, 16 25
Hamburg, 1 10 51
Matanzas, 5 9
Catania, 11 8

Ammonium Muriate—
Rouen, 2 t. 13 c. £123
N. Orleans, 16 10 396
Baltimore, 32 18 790
Yokohama, 11 9 274
Hiogo, 6 146
Hamburg, 25 6
Piræus, 15 18
Trebizonde, 5 6

Ammonium Sulphate—
Las Palmas, 62 t. 10 c. £747
Teneriffe, 27 439
Newport, N., 85 12 978
Sourabaya, 94 14 1,138
La Pallice, 20 240
Messina, 5 59
Alicante, 31 11 378
Almeria, 10 10 126
Valencia, 57 687

Antimony Oxide—
Hamburg, 6 t. 15 c. £236

Arsenic—
Shanghai, 1 t. 19 c. £61
Natal, 1 1 33
Rangoon, 1 cs. 2

Asbestos—
Manilla, 2 cs.
Smyrna, 1

Basic Slag—
Christiania, 25 t. 10 c. £36
Brindisi, 58 10 119
Bilbao, 40 60
Aviles, 10 15
Tarragona, 10 15

Bleaching Powder—
Bombay, 25 cs.
Boston, 266 cks. 708 dms.
Calcutta,
Phila'phia, 263
Shanghai, 403
Stamboul, 15 8 brls.
Villagarcia,
Ghent, 20
Hiogo, 10 dms.
Madras, 15
Montreal, 164
New York, 90 brls. 88 bxs.
Rio de Jan., 7
Vera Cruz, 35 dms.

Bisulphite of Lime—
Sydney, 1 t. 12 c. £10
St. John's, N'fld., 6 10 18

Bone Ash—
Colon, 2 kgs. £2

Boracic Acid—
Piræus, 6 c. £8
Santiago de C., 10 16
Santiago, 5 cks. 7

Borax—
New York, 4 c. 4 kgs. £6
Sagua la G. 2 t. 30
Colon, 3 6
Havana, 3 19 82
Tarkwa, 5 18
Sekondi, 18 35
Natal, 11 9
Bombay, 1 1 25
Colombo, 5 4
Pernambuco, 2 20
Wellington, 1 16

Calcium Chloride—
Gothenburg, 3 t. 3 c. £7
Montreal, 4 3 8
Delagoa Bay, 5 4 11
Lagos, 1 2 3
Montreal, 12 3 22
Genoa, 10 26
Bordeaux, 20 53
Durban, 3 4 13
Valparaiso, 3 4 8
Barletta, 100 5 278
P. Mexico, 5 4 13

Calcium Sulphocyanide—
Rio de Jan., 6 c. £16

Calcium Sulphydrate—
Antwerp, 20 t. 10 c. £85

Carbonic Acid Gas—
Iquitos, 7 cs. £3
Burutu, 2 3

Caustic Potash—
St. John's, N'fld., 13 c. £23

Caustic Soda—
Amsterdam, 71 dms.
Barcelona, 96 cks. 230
Bombay, 63
B. Ayres, 410
Corral, 30
Durban, 174 cs.
Galatz, 283
Galveston, 69
Genoa, 246
Hamburg, 28
Havana, 65
Karachi, 50
Malaga, 40
Malta, 4
Melbourne, 21 37
Naples, 135
New Orleans, 205
New York, 100
Perth, 10 40
Rangoon, 100
Quebec,
Rio de Jan., 50 tins 240
Vera Cruz, 75
Batavia, 40
Alexandria, 36
Bari, 20
Batavia, 10
Beira, 50
Boston, 84
Brisbane, 27 bxs.
Canterbury, 36 dms.
Catania, 107
Ceara, 40
Colon, 29
Corunel, 30
Delagoa Bay, 21 180
Gefle, 100
Gijon,

Caustic Soda—
Gothenburg, 20 dms.
H. Kong, 65
Madras, 33
Montreal, 50
Rotterdam, 8 cks. 64
11 brls.
Sourabaya, 20
Tampico, 740
Valencia, 25 pks.
Yokohama, 150

Chemicals (*otherwise undescribed*)
Alexandria, 100 bgs. 427
Madras, 400 432 cs. 2,003
P. Madryn, 50 63
Rangoon, 1 2
Santander, 20 kgs. 35
Trieste, 100 cks. 10 330
Venice, 10 15
Montreal, 20 25 183
Larnaca, 1 brl. 3
Lagos, 12 9
R'khampton, 10 85 98
Samsoun, 1 3
Adelaide, 60 51
Lisbon, 1 ck. 9
Lisbon, 1 ck. 23
Baltimore, 60 dms. 335
Cebu, 5 10
Montreal, 180 17 cs. 109
Singapore, 80 670
10 brls.
Sydney, 30 cs. 66
327
Batavia, 175 111
Sourabaya, 45 12
Cheribon, 5 24
Samarang, 12 79
Calcutta, 75 4
Guantanamo, 8 136
Rosario, 50
Stettin, 14 55
5 t.

China Clay—
St. John's, 24 cks.
Bombay, 732
Calcutta, 600
Montreal, 279 243 bgs.
N. Orleans, 100
Oporto, 100

Citric Acid—
Corunna, 1 c. £12
Malta, 1 11
Iquique, 6 58
Barbadoes, 1 brl. 2
Iquitos, 1 ck. 12

Citrochloric Acid—
Santiago, 1 cs. £3

Coal Products—
Aniline Salts
Syra, 19 c. £55
Carbolic Acid
Hamburg, 10 t. —
Carbolic Acid (Crystals)
Accra, 4 c. £10
Carbolic Acid (Fluid)
Rotterdam, 1 t. 18 c. £32
Santiago, 1 ck. 2
Adelaide, 1 1
Carbolic Acid (Solid)
Montreal, 19 c. £26
Hiogo, 5 t. 251
Hamburg, 1 1 52
Creosote Salt (Waste)
Bordeaux, 5 t. 3 c. £10

Cobalt Oxide—
Oporto, 2 bxs. £29

Copperas—
Las Palmas, 8 t. 18 c. £27
C. Town, 9 1
Gd. Canary, 12 12 32
Orotava, 2 5
Varna, 11 2
Trebizonde, 2 4 9

Copper Sulphate—
Lagos, 10 c. £17
Corunna, 2 t. 63
Vigo, 2 1 60
Callao, 4 122
Malaga, 1 31
Barcelona, 25 10 778
Santander, 8 1 246
Galatz, 1 31
Trebizonde, 6 8
Rotterdam, 4 19 151
Vera Cruz, 30 3 1,495
Constantinople, 1 30
Odessa, 5 130
Hamburg, 14 10 415
Tampico, 20 5 619
M. Video, 16 16 487
Braila, 4 18 145
Gijon, 3 92
Santander, 4 19 119

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Copper Sulphate—
Antwerp, 9 t. 19 c. £302
Bombay, 5 110
Varna, 1 10 49
Gothenburg, 1 19 59
Oporto, 10 2 305
Calcutta, 5 151

Cottonseed Oil—
Bordeaux, 40 brls.
Constantinople, 20
Dakar, 30
Maranham, 75
Tangier, 25

Cream of Tartar—
E. London, 1 kg. £4
Lisbon, 1 4

Cyanide (*otherwise undescribed*)—
Colon, 2 t. £171

Disinfectants—
Durban, 43 pks. £28
Bangkok, 101 dms. 14
Rangoon, 7 cs. 76 43
Santiago, 1 9
C. Town, 25 124 pks. 37
Burutu, 1 2
Brass, 1 3
Bombay, 46 20 kgs. 86
P. Elizabeth, 6 cks. 20
Calcutta, 3 100 22
Johannesburg, 200 294
Pernambuco, 19 c. 8
Rotterdam, 2 t. 9
Sydney, 1 14 / 10 brls. 80

Dried Blood—
Orotava, 1 t. 2 c. €10
Teneriffe, 24 5 235

Fertilisers—
Montreal, 18 t. £215

Glue—
Antwerp, 15 bgs.
Bombay, 25
Yokohama, 40
Wellington, 25 pks.

Glycerine—
Bombay, 10 c. £29
Bloemfontein, 5 12
C. Town, 107 t 19 4,612
Quebec, 24 9 1,078
Bombay, 6 18
Cienfuegos, 2 6
Phila'phia, 100 3,653
Montreal, 2 92
Maranham, 1 8

Guano—
Las Palmas, 12 t. 1 c. £90

Gypsum—
Sydney, 1 t. 2 c. £7

Hydrochloric Acid—
Beira, 6 c. £5
Sekondi, 7 4

Iron Chromate—
Havre, 20 t. 2 c. £322
Lisbon, 1 1

Kainit—
Sydney, 1 t. 2 c. £21

Linseed Oil—
Acajulta, 5 dms.
Bahia, 6 brls.
Benquella, 10
Calcutta, 50
Callao, 600
Candia, 5
Colon, 14 cs. 2 75
Constantinople, 11
Guayaquil, 190
Havana, 39 395
Iquitos, 4 100
Lagos, 20
Maccio, 2
Malta, 4
Manaos, 40
Manilla, 50
Mauritius, 184
Mollendo, 50
Monte Video, 50
New York, 3
Para, 69
Pernambuco, 6
Piræus, 14
St. John's, 455
Varna, 17
Vera Cruz, 12 180
Warri, 10
Wellington, 40
Yloilo 100 dms.

Magnesia (Calcined)—
Genoa, 1 cs. £15
Santiago, 1 ck. 3
Guayaquil, 3 c. 2 15
Rosario, 1 27
Vigo, 9 71

Magnesite (Calcined)—
Melbourne, 9 c. £9

Magnesium Carbonate—
Santiago, 7 cs. £14
Rio de Jan., 1 t. 10 c. 67
Bahia, 13 23
Havana, 1 28

Magnesium Citrate—
Barcelona, 19 c. £100
" 6 28

Magnesium Sulphate—
Bahia, 1 t. 19 c. €13

Manure—
Bordeaux, 5 t. €50
Havana, 100 622
Stettin, 7 c. 4
New York, 55 12 445
Stockholm, 15 7 74

Muriatic Acid—
Maranham, 12 c. £8

Nitric Acid—
Sekondi, 1 cs. £1

Nitric Salt—
New York, 3 c. £4

Oxalic Acid—
Auckland, 2 kgs. £3

Oxalic Acid (Crystals)—
Lisbon, 1 t. 2 c. £47

Paraffin Wax—
Batoum, 50 bgs.
Durban, 5 cs.
Rio de Jan., 10
Leghorn, 20
New York, 127

Phosphorus—
Vera Cruz, 6 c. £50

Phosphorus (Amorphous)—
Vera Cruz, 1 c. £10

Potash—
Bombay, 4 c. €16
Para, 4 6

Potassium Bichromate—
Santos, 5 c €11
Tampico, 6 t. 182

Potassium Carbonate—
Rio de Jan., 9 c. £3

Potassium Chlorate—
Hamburg, 1 t. 5 c. €36
Calcutta, 2 60
Malmo, 2 10 75
Naples, 4 19 128
Rotterdam, 2 4 65
Corunna, 5 10
Hamburg, 5 150
Kobe, 15 451
Bogota, 14 32
Matanzas, 1 2
Alexandria, 1 30
Vigo, 1 10 45
Shanghai, 2 60
Konigsberg, 10 318
Maranham, 1 2
Tampico, 8 242
Vera Cruz, 5 150

Potassium Cyanide—
Sekondi, 2 t. 19 c. £234

Salammoniac—
Galatz, 1 t. 19 c. £77
Salonica, 1 1 39
Bombay, 4 16 174
Madras, 1 1 40
Varna, 6 11
Rangoon, 3 105

Salt—
Bonnema, 25 t. 2 c.
Adelaide, 97
Alexandria, 6
Amsterdam, 483
Antwerp, 155 260 cs.
Baltimore, 265
Barbadoes, 50
Benin, 6 4
Boston, 220
B. Ayres, 350
Calcutta, 8,127
Cape Town, 200
Christch'h, 175
Conakry, 150 10
Demerara, 1
Ghent, 100
G. Bassa, 71
Halifax, 250
Hamburg, 35 60
Havana, 5 25
Kalmar, 2

Salt—
Lagos, 365 t.
Lahou, 22 6 c.
Landana, 125
Manilla, 15 9 250 cs.
Melbourne, 31
M. Video, 31 30 pks.
Montreal, 270
N. Orleans, 75
New York, 95
Opobo, 93 4
Para, 50
Phila'phia, 200
Portland, 25
Punta Arenas, 10
Rio de Jan., 200 cs.
Santos, 1 2
St. Petersburg, 50
Sinoe, 10
Sydney, 262

Saltcake—
Bombay, 1 t. 10 c. £6
Bilbao, 50 5 91 cs. 50

Saltpetre—
Las Palmas, 10 c. £12
Para, 5 7
S. Leone, 6 kgs. 2

Sheep Dip—
B. Ayres, 13 t. 25 dms. £328
P. Madryn, 1,000 362
Belize, 1 cs. 2
Sydney, 50 7
P. Arenas, 51 kgs. 200 / 500 —
C. Town, 14 c. 33
Natal, 10 8 290

Soap—
Accra, 200 bxs.
Arrecife, 82
Assini, 150 cs.
Bangkok, 300
Barbadoes, 200
Bassam, 30
Batavia, 2 2,500
Beira, 10
Belize, 2,194
Benin, 100
Bermuda, 75
Bombay, 43
Cadiz, 27
Calcutta, 1,250 bdls. / 133 cs. 7 pks. / 145 bxs.
Cape Town, 175 106
Christiania, 40
Colon, 500
Curacao, 435
Delagoa Bay, 1,474 4,229
Durban, 376 25
France, 40
Galatz, 20 11
Gibraltar, 15 857
Gothenburg, 70
Granada, 820
Half Jack, 1
Hamburg, 90
H. Kong, 55
Kobe, 25
Madras, 166
Malta, 8
Manilla, 2
Matadi, 3 115
Montreal, 9
New York, 46
Palma, 100
Para, 1
Penang, 1,982
P. Elizabeth, 380 50
Quittah, 200
Rangoon, 1,960 85
Rotterdam, 1,119 21 crts.
Shanghai, 1,000 766 bxs.
Singapore, 93 950
Tangiers, 420
Trinidad, 595
Cameroon, 50
Colombo, 15
Demerara, 420
Karachi, 13
Lagos, 970
Las Palmas, 1
Limassol, 20
Macassar, 1,000
Maccio, 5
Port Said, 45
Valparaiso, 30
Yloilo, 6 bdls.

Soap Extract—
Wellington, 48 skl-cs. 4 tnks.
Dunedin, 20 1

Soap Powder—
Antwerp, 100 bxs.
Yokohama, 200 kgs.

Soda Ash—
Amsterdam, 300 bgs.
Talcahuano, 195 cks.
Bari, 100
Calcutta, 1,200
Ceara, 40 brls.
Delagoa Bay, 40 cs.
Genoa, 110
Hamburg, 300
Hiogo, 1,020
Lisbon, 100
Montreal, 150
Rotterdam, 28
Venice, 200
Vera Cruz, 779
Yokohama, 3,180

Soda Crystals—
Montreal, 150 bgs.
Calcutta, 30 kgs.
Gibraltar, 40 brls.
Malta, 207
Montreal, 50 500 50 dms.

Sodium Bicarbonate—
Adelaide, 100 kgs.
Alexandria, 10
Aleppo, 10
Barbadoes, 22 10 bgs.
Barcelona, 240
Braila, 10
Piræus, 5
Rangoon, 215 cks.
Rouen, 14
Seville, 280 brls.
Sydney, 93 488
Bari, 230
Bombay, 3 150
Calcutta, 340
Callao, 5
Corunna, 20 pks.
Dis. Stambul, 90
Gibraltar, 80
Hiogo, 1,250 bgs.
H. Kong, 20
Iquique, 100
Karachi, 470 200
Madeira, 20
Malta, 10
Melbourne, 336 dms.
M. Video, 50
Montreal, 45 545 20 bgs.
Varna, 110
Venice, 150
Vera Cruz, 470

Sodium Cyanide—
Beira, 5 t. 17 c. £323
Manilla, 1 19 152
Durban, 3 7 260

Sodium Silicate—
Barcelona, 400 bgs. / 157 brls.
Calcutta, 31
Catania, 174
Galveston, 46
Gothenburg, 18 cks.
Hamburg, 15
Rosario, 10
Santos, 32
Smyrna, 35
Sydney, 32
Bilbao, 300
Melbourne, 100
Delagoa Bay, 6
Galatz, 176
Para, 7
Samarang, 38
Tampico, 672 bgs.
Valencia, 136

Sodium Sulphate—
Bahia, 30 kgs. 5 brls.
Barcelona, 33 dms.
Bilbao, 91 cks.
Smyrna, 2

Sodium Sulphide—
Barcelona, 5 t. 2 c. £43

Sulphur—
N. York, 2 brls. / 16 c. £18
Christiania, 50 t. 245
Montreal, 350 2 1,445
Valparaiso, 3 21
Manaos, 6 kgs. 1
Iquitos, 2 cs. 2
St. Louis, 4 6 130
Colombo, 2 16
Boston, 100 425

Sulphuric Acid—
Maranham, 2 t. 5 c. £24
Hamburg, 2 10 2 cs. 21
Colombo, 4

Superphosphates—
Gd. Canary, 10 c. £2
Gijon, 297 t. 746
Lisbon, 99 267
Malaga, 743 13 1,786
Teneriffe, 29 8 81

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Superphosphates—
Algiers, 198 t. 2 c. £505
Canary, 29 9 81
Teneriffe, 30 107
Las Palmas, 4 10 16
Valencia, 297 5 687
Alicante, 198 500
Seville, 495 1,234
Orotava, 9 14 27
Mauritius, 50 150
Santander, 198 483

Starch—
Iquitos, 5 cks.
Lisbon, 8
Maceio, 32 brls.

Tallow—
Gothenburg, 6 brls.
Bombay, 148
Pernambuco, 20
Rotterdam, 100 trcs.

Tartaric Acid—
E. London, 1 cs. 11 c. £65
Iquitos, 1 6

Turpentine—
Iquitos, 10 dms.
Jaffa, 2
Manilla, 135

White Lead—
Christchurch, 252 kgs.
Calcutta, 10 cks.
New York, 5 t.
Wellington, 40

Zinc Chloride—
Calcutta, 2 t. 6 c. £27
Copenhagen, 1 dm. 4
Bombay, 7 9 90
Oporto, 1 4 17

Zinc Muriate—
Stettin, 7 c. £4
Bombay, 5 t. 15 8

MANCHESTER.

Week ending August 14.

Ammonium Carbonate—
B. Ayres, 10 cs.
Tunis, 6 brls.

Calcium Sulphate—
Antwerp, 100 brls.

Caustic Soda—
Jaffa, 75 dms.

Chemicals (*otherwise undescribed*)
Alexandria, 2 cs.

Coal Products—
Aniline Colours
Germany, 6 cks.
Carbolic Acid
Rotterdam, 33 cks.
Philadelphia, 30
Naphthylamine
Antwerp, 57 cks.

Colours—
Hamburg, 4 cks.
Boston, 8

Copperas—
Bushire, 60 brls.

Copper Sulphate—
Beyrout, 1 ck.

Dyestuffs (*otherwise undescribed*)
Rouen, 10 brls.

Dyestuffs—
Tannin Extract
Montreal, 15 cks.

Farina—
Boston, 25 cks.

Glue—
Hamburg, 10 cks.
Holland, 10
Rotterdam, 12

Linseed Oil—
Jaffa, 2 brls.
Larnaca, 2
Limassol 3
Alexandria, 1

Manure—
Antwerp, 53 bgs.
Treport, 19 t.

Oxalic Acid—
Bushire, 6 cs.

Potassium Bichromate—
Treport, 14 cks.

Salammoniac—
Bushire, 10 brls.
Tripoli, 1

Salt—
Montreal, 880 t.
Rotterdam, 360

Soda Crystals—
Sfax, 30 bgs.

Sodium Bichromate—
Mersyne, 4 cks.
Treport, 14
Bussorah, 20

Sodium Borate—
Montreal, 35 brls.

Sodium Prussiate—
Boston, 26 cks.

Sodium Silicate—
Alexandria, 17 brls.
Sfax, 10

Stearine—
Rotterdam, 59 cks.

HULL.

Week ending August 10.

Ammonium Sulphate—
Italy, 314 bgs.
Marseilles, 300
Venice, 1,850

Chemicals (*otherwise undescribed*)
Amsterdam, 121 cks. 1 trc.
Antwerp, 7 6 kgs.
Abo, 10 dms.
Bergen, 5
Copenhagen, 13
Danzig, 2 tcs. 2 cs. 20 pks. 1 kg.
Gothenburg, 457 slbs. 5
Hamburg, 39 cks.
Helsingfors, 2 cs.
Naples, 50 bgs. 5
Stavanger, 25 dms.
Wyburg, 1
Venice, 3 cks.

Coal Products—
Pitch
Artwerp, 88 t.
Bergen, 6 cks.
Tar
Christiania, 33 cks.
Drontheim, 9
Hamburg, 31
Stavanger, 2
Leghorn, 100 bls.
Venice, 30 brls.

Cottonseed Oil—
Amsterdam, 11 t. 1 c.
Dunkirk, 12 3
Hamburg, 25
Stettin, 3 10

Dyestuffs (*otherwise undescribed*)
Antwerp, 22 cks.

Glue—
Christiania, 1 cs.

Linseed Oil—
Australia, 4 c.
Christiania, 1 t. 8
Dunkirk, 1 3
Hamburg, 2
Stettin, 1
Fiume, 22 brls.
Trieste, 6

Manure—
Bremen, 143 bgs.
Dunkirk, 57 bls.
Lisbon, 750 t.
Libau, 3,000 bgs.

Tallow—
Helsingfors, 15 cks.

Turpentine—
Amsterdam, 1 ck.
Antwerp, 7
Hamburg, 25

GLASGOW.

Week ending August 15.

Acetic Acid—
Lisbon, £29

Ammonium Carbonate—
Stavanger, 1 t. 2 c. 2 q. 11 lb.

Ammonium Muriate—
Genoa, 10 c. 3 q.

Ammonium Sulphate—
Kobe, 253 t. 16 c.
Osaka, 200 15
Yokohama, 394 8 1 q.
Rosario, 24 17 3
Amsterdam, 71
Alicante, 106 7 1
Barcelona, 195 10 2
Tarragona, 101 2
U.S.A., 201 14 1

Bleaching Powder—
Barcelona, 4 t. 9 c. 1 q.

Borax—
Rotterdam, 1 t. 12 c.

Castor Oil—
P. Elizabeth. £48

Chemicals (*otherwise undescribed*)
Montreal, £35
Belgium, 30

Coal Products—
Creosote Oil
Christiania, 14 t.
Rotterdam, 4 4 c.
Marseilles, £32

Dyestuffs (*otherwise undescribed*)
Fiume, £1,023

Dyestuffs—
Tanners' Extract
Hamburg, 28 t. 4 c. 1 q. 8 lb.

Fish Oil—
Genoa, £360
Marseilles, 368
Belgium, 918
Barcelona, 178
Trieste, 4,882
Valparaiso, 506

Iodine—
Rotterdam, 14 c.

Linseed Oil—
Singapore, 1 t. 4 c. 1 q.
Alexandria, 5 11 3
Malta, 4 4

Litharge—
Rotterdam, 1 t. 2 c.

Manure—
Rosario, 111 t. 14 c. 1 q.

Olive Oil—
P. Elizabeth, £48

Oxalic Acid—
Marseilles, £48

Paraffin Wax—
Marseilles, 3t. 19 c. 2 q.
U.S.A., 2 10 3
Barcelona, 2 9 3
Tunis, 1
Venice, 4 19 2
Valparaiso, 19 3

Paraffin (Solid)—
Marseilles, 4t. 16 c.
Rotterdam, 10

Potassium Bichromate—
Genoa, 3t. 19 c.
Rotterdam, 8 10
Stavanger, 1 3 1 q. 23 lb.
Portugal, 1 5
U.S.A., 3 19

Prussiate (*otherwise undescribed*)
U.S.A., 1t. 15 c. 2 q.

Red Lead—
Rotterdam, 1 t. 1 c.
Calcutta, 5 19 3 q.
Singapore, 1 1 1

Sheep Dip—
B. Ayres, £37

Soap—
H. Kong, 6 t. 1 c.
Talcahuano, 4 1 q.

Sodium Acetate—
Lisbon, 1 t. 3 c. 3 q.

Sodium Bichromate—
Rotterdam, 1t. 11 c. 2 q.
Barcelona, 5 1 2

Sodium Cyanide—
Pachuca, 30 t.

Starch—
Barcelona, 14t. 15 c. 2 q. £60
Lisbon,

Superphosphates—
Lisbon, 500 t.

Tallow—
Alexandria, 1t. 13 c. 3 q.
Rotterdam, 3

Turpentine—
Alexandria, £67

White Lead—
Singapore, 2 t. 8 c. 1 q.
Alexandria, 1 11 1
Valparaiso, 2 8

Zinc Ashes—
Rotterdam, 3t. 15 c.

TYNE.

Week ending August 10.

Antimony (Regulus)—
Hamburg, 15 t. 3 q. 21 lb.
S.Petersburg, 14
Rotterdam, 10 9 c. 3
Antwerp, 1 1 1 14

Barium Binoxide—
Venice, 6t. 12 c. 3 q. 9 lb.
Hamburg, 50 16 2 1

Barium Carbonate—
Hamburg, 253t. 19 c.

Bleaching Powder—
Aarhus, 9t. 19 c. 1 q.
Copenhagen, 10 2
Odense, 10 3 20 lb.
Rotterdam, 10 5 21

Bone Meal—
Hamburg, 49 t. 8 c. 1 q. 21 lb.

Caustic Soda—
Copenhagen, 11t. 12 c. 16 lb.
Antwerp, 7 16 2 q. 22

Ferro Manganese—
Bilbao, 60 t. 6 c. 18 lb.

Infusorial Earth—
Antwerp, 3t. 10 c.

Linseed Oil—
Rotterdam, 6 c.

Litharge—
Hamburg, 2 c.
Antwerp, 2 t. 10 3 q. 17 lb.

Manure—
Ancona, 20 t. 6 c.
Bari, 100 3 3 q. 5 lb.
Antwerp, 55
Hamburg, 110 4
Pernau, 940 6 3 12

Red Lead—
Hamburg, 10t. 14 c. 2 q. 26 lb.
Copenhagen, 4 1 25

Soda Crystals—
Rotterdam, 9 t. 8 c.

Sodium Sulphate—
Frano (Hernosand), 285 t. 3 c.

Tallow—
Hamburg, 5 t. 2 c. 2 q. 19 lb.

Turpentine—
Copenhagen, 6 cks.
Rotterdam, 1 c. 2 q.
Antwerp, 2 dms.

White Lead—
Hamburg, 13t. 17 c. 1 q. 20 lb.
Copenhagen, 2 9 2 23
Rotterdam, 9 3 2 17

Zinc Ore—
Antwerp, 87t. 12 c. 3 q.

GOOLE.

Week ending August 10.

Ammonium Sulphate—
Rotterdam, 51 t.
Emmerich-on-Rhine, 159

Chemicals (*otherwise undescribed*)
Antwerp, 25 cks.
Boulogne, 11 cs. 1 crt.
Hamburg, 11 64
Rotterdam, 84 40

Coal Products (*otherwise undes.*)—
Hamburg, 98 cks.
Amsterdam, 25 6 btls.
Rotterdam, 16 1 cs. 20 dms.

Coal Products—
Benzol
Rotterdam, 59 dms.

Colours—
Amsterdam, 1 ck.
Boulogne, 9 8 cs.
Rotterdam, 1 2

Manure—
Rotterdam, 514 bgs.
Emmerich-on-Rhine, 1,595

GRIMSBY.

Week ending August 7.

Chemicals (*otherwise undescribed*)
Hamburg, 5 cks.

Coal Products (*otherwise undes.*)—
Rotterdam, 7 cks.
Dieppe, 69 30 brls.

Colours—
Dieppe, 12 brls.
Hamburg, 5 cks.
Rotterdam, 2 pks.

Dyestuffs (*otherwise undescribed*)
Rotterdam, 3 kgs.

Manure—
Hamburg, 1,334 bgs.

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PRICES CURRENT.

FRIDAY, August 23, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/- &	13/-	
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3⅞
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	31	15	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/- &	40/-	
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	40	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/- to	65/-	
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/- to	27/6	
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		0	0	1¾
Benzol, 90's	per gallon	0	0	9
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¼
,, (filtered for Lucigen light)	,,	0	0	2¾
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	5	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	78	0	0
,, Sulphate	,,	26	15	0
,, Oxide (copper scales)	,,	68	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	15	0
,, Litharge Flake (ex ship)	,,	23	0	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	29	10	0
Linseed	,,	23	5	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	5	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash) 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5⅞
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 15/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Alkali), 58% (bags)	,,	4	10	0
,, ,, (Soda Crystals)	,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	24	10	0
,, Borate (Borax), Crystals	,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton	10	10	0
,, ,, (74% C. Soda) ,, ,,	10 ton lots	10	5	0
,, ,, (70% C. Soda) ,, ,,	,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	0
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3¾
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	170	0	0
Zinc (Spelter)	,,	22	0	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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CURRENT TOPICS.

FACTORIES AND WORKSHOPS INSPECTION.

THE most serious feature in the Annual Report of the Chief Inspector of Factories and Workshops' which was recently issued as a Blue Book (Cd. 3586), is the large increase in the number of accidents during 1906. In the year under review no less than 111,904 accidents were reported, this being an increase of 11.2%; in fatal accidents the rise was 5%. It must be remembered that these figures cover factories and workshops employing nearly 5,000,000 persons, but it is evident that the unusually large number of accidents is viewed with concern by the officials of the Department and by the Home Secretary.

The Chief Inspector reports that during the year there was a steady advance in exhaust ventilation for removal of dust and fumes, but that progress is often retarded by the neglect of occupiers to consult experts when installing the exhaust, or to keep it in good order when fitted. Examples of well-planned installations for the removal of injurious dust and fumes were published in book form during the year, and brought to the notice of occupiers. The final report of the Ventilation Committee will deal fully with the same subject.

Draft regulations for the manufacture of paints and colours were issued in July, 1906, followed by a revised draft in December; regulations have now been made by the Secretary of State, and came into force on the 1st February, 1907. The Commissioner's report on the inquiry into the objections to the Draft Regulations for the use of locomotives in factories, etc., held in November, 1905, was received in March, 1906; regulations were made by the Secretary of State in August, and with certain exceptions came into force on the 1st January, 1907. Further draft regulations for the generation and use of electricity were under consideration during the year, and have now been issued.

Circulars on the manufacture of nitro and amido-derivatives of benzene, and of explosives made with use of dinitrobenzol or dinitrotoluol, together with suggested regulations were issued during 1906 to occupiers concerned, and regulations are now under consideration.

The departmental memorandum on carbonic oxide poisoning was revised and re-issued, and another on dry cleaning was circulated in October.

The prohibition of the use of yellow phosphorus in the manufacture of lucifer matches was one of the subjects under discussion at the International Conference at Berne. France, Germany, Holland, Denmark, and Switzerland had already taken this step, and Italy has now decided to do so In Austria, Hungary, Belgium, Sweden, Norway, Spain, and Portugal, as in the United States and Japan, there is no prohibition. In the United Kingdom

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reliance is placed upon control by Special Rules, and revision of these is under consideration.

The Chief Inspector reports that the recommendations which have been made, by circular, for precautions in the processes of tar-distilling, dry cleaning, and aniline black dyeing have generally resulted in improvements.

The number of cases in which legal proceedings were taken during the year was 4,155, against 3,946 in 1905; convictions resulted in 3,893 cases, and the average penalties were slightly higher than in the preceding year.

The volume contains the usual interesting detailed information and appendix. Several of the special reports, in particular that of the Medical Inspector, will be dealt with at length in our next issue.

BANKRUPTCIES IN 1906.

The official statistics of the Bankruptcy Department of the Board of Trade are never cheerful, but a summary of the figures must nevertheless be presented as the annual reports make their appearance. The report before us shows that during 1906 the cases of insolvency which either went into bankruptcy or were dealt with under deeds of arrangement were fewer, but the estimated loss to creditors was greater than in 1905. The cases dealt with in the report of the Inspector-General fall under two main divisions—those under the Bankruptcy Acts, 1883 and 1890 and those under the Deeds of Arrangement Act, 1887. The combined totals were:—8,077 cases, a decrease of 526; liabilities as estimated by debtors, £10,126,281., an increase of £451,811.; assets as estimated by debtors, £4,505,281., an increase of £114,699.; estimated loss to creditors, £7,926,211.,an increase of £261,123.

The number of receiving orders made in 1905 was the greatest during the period of ten years then ending. To the figures tabulated in the report have to be added 369 failures in Scotland, with liabilities £842,541. and assets £291,395.; and 287 failures and deeds in Ireland, with liabilities £306,452. and assets £95,576.

An interesting statement gives the number of failures in different trades or occupations. Of these grocery and provisions furnish the largest number, 971, though the total liabilities, £697,793., were not the largest for a single trade or occupation. Other businesses which contributed largely to the total were, building, 858, liabilities, £789,408.; beer, wine, and spirits, 438, £524,775.; metal 364, £431,918.; leather 320, £333,098.; farmers 318, £339,019.; drapers and haberdashers 314, £369,260.; tailors 225, £145,284.; bakers 225, £106,938.; butchers 200, £120,558. The largest total amount of liabilities for any trade was the £789,408. of builders.

"THE RELIGION OF RESEARCH."

At the recent British Pharmaceutical Conference, at Manchester, the President, Mr. Thomas Tyrer, emphasised with effect the vital importance of research work. A clever writer in our pharmaceutical contemporary, the *Chemist and Druggist*, playfully belabours Mr. Tyrer in some notes which make interesting reading, keeping in mind the recent strictures (already referred to in these columns) of the *Times* on "sensationalism" in science. "The dense world needs to be taught" (says the pharmaceutical writer) "how essential to its welfare are professors and pupils, and how important it is, therefore, that there should be an abundant provision of well-paid situations always ready for them. What might not Governments do with their millions of revenue if they could only be got to realise this importance? And are there not thousands of businesses being carried on in this country without the assistance of bachelors of science? Every now and then, as Mr. Tyrer says, things go wrong under most experienced hands. Clearly what is wanted is a youth fresh from college to explain things to the old man. Mr. Tyrer did not explicitly draw these conclusions from his really very interesting survey of the scientific activity which surrounds us, but it may fairly be presumed that they were at the back of his mind, as several expressions similar to the one just quoted suggest. Without admitting or disputing the inference, however, there can be no question about the vigour of present-day research. In every section of industry, in every department of study, toilers eager to add a new fact or fraction of a fact, or to elucidate some doubtful point, simply swarm. Nor is this energy limited to the pursuit of natural science only, or even pre-eminently. Antiquarian, historical, classical, philological, and other laborious researches are prosecuted with the same devotion that we recognise in chemistry or electrical science."

The writer points out that Mr. Tyrer's authorities furnish among them numerous suggestive definitions of or comments on research. Apparently, however, they were asked to deal with research in connection with the science of chemistry exclusively, for several of them give definitions inapplicable to any other kind. "Lord Kelvin, for example, replies that research is an endeavour to extend our knowledge of the properties of matter. This could not apply to historical investigations, for instance. Sir William Ramsay wittily compares research in science with speculation in business; an analogy which, if thought out, largely disposes of the stock plea for State aid for those engaged in it! . . . This tendency to speculation in business and to research in science is probably a growing one. Sir William Crookes, who has investigated many things in his time, hints at the curious law governing human efforts which seems to divide labour among various intellects. Not one person in twenty millions would have been attracted by the rare earths. Why was Crookes? It is a mystery, he says. Workers are apt to drift into their lines of study as some of them do to their results. But they have to have an investigating fibre in their brains, and this must be associated with industry and patience, or they would not become researchers at all. The dogmatic dictum attributed to Professor Armstrong, which, we are told, he once asserted to incredulous readers that 'all research ultimately leads to industrial results or ends in technology,' is not quite intelligible without the context. If it means that all research is valuable, readers will be well advised if they remain incredulous."

Our contemporary concludes:—"Research that has hindered progress has probably been more abundant in the history of learning than research which has aided progress. Dalton, says Mr. Tyrer, was a true researcher. He was so especially in the sense which Professor Wynne properly attaches to the term as 'covering the correlation of facts already known.' But it is not impossible that we may come to realise that Dalton's correlation of facts put us and kept us on the wrong scent for a century, just as Stahl's phlogiston theory had misled observers during the preceding 150 years. Nor need we go further than medicine and pharmacy to ascertain how scientific investigators can and do hinder progress. It is the correlators of facts who do the principal mischief. The briefest glance through the history of medicine suffices to show how little cause

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there is to be thankful to these theorists for their services through some twenty centuries. Their antidotes and amulets, their hot and cold and moist and dry drugs, their humours and pneuma and archei, their doctrine of signatures and their universal elixirs, their vipers and human skulls and crabs' eyes and hartshorns, make up a pitiable record, and their authority hid from sight true principles of hygiene and immolated millions of victims to plagues and pestilences. Through all those ages the most useful work in medicine was done by the quacks, who did compound some valuable remedies, many of which are still with us. It is not permitted to suppose that any modern orthodox investigation can be other than wisely conceived and judiciously directed. But there are heretics who question the conclusions of such arch-researchers as Jenner and Pasteur. Imagine the possibility of the physicians of the future siding with the doubters of to-day. With what amusement or horror will posterity regard the now popular methods of treating one disease by the introduction of another!"

NITRATE OF SODA.

THE market remains deadly dull, with a weak tendency in all positions. Hamburg, in receipt of large supplies by steamers, is a seller of spot nitrate at the equivalent of 10s. 10½d. per cwt., and second-hand parcels are offering at about 11s. for spring delivery, but in the absence of buyers values are quite nominal. Owing to heavy arrivals and port stocks the premium on refined has practically disappeared. There are three large cargoes of ordinary at port of call, one of which has been awaiting orders for several weeks, and others are due for which destinations will with difficulty be found, all ports being already crowded. Prices have come down on the West Coast, producers being willing to accept under 9s. per quintal, f.o.b., compared with 9s. 4d. a year ago, when the market was very firm and rising in consequence of the Valparaiso earthquake. The imposing (in more senses than one) "Cuota Table" for the second year of the new combination, just received from Iquique, shows an initial allotment to 137 oficinas of 77,132,000 quintals, or 3,506,000 tons; the export cuota on the basis of 30% reduction is 49,433,065 quintals, exclusive of the share of eight large works not yet completed. Adding 7,013,859 quintals balance brought forward, the total allowed export comes out at 56,446,924 quintals or 2,565,769 tons, the world's consumption in the past combination year having been 1,580,349 tons. True, the scarcity of labour in Chili has so far prevented the shipment of the quantities officially sanctioned, but the raw material and the plant are ready to hand. In the meantime it must be admitted that the "regulation of supply and demand" on paper is sufficiently elastic!

German Chemicals.—A considerable advance has recently taken place in the shares of the large chemical companies, on the rumour of a "rapprochement," if not amalgamation, between the Badische-Elberfeld-Berlin Anilin and the Höchst-Leopold Casella groups. A contradiction is, however, now published by the Elberfeld Colour Works, which by the way are increasing their present share capital of £1,050,000. for the purpose of the contract entered into with their associates and a Franco-Norwegian banking syndicate for the production of artificial nitrate.

Potash Salts.—The following are the Potash Syndicate's deliveries in the seven months to July 31, compared with those in the corresponding period last year:—80% chloride of potash, 145,958 tons, against 141,207 tons; 90% sulphate of potash, 25,847 tons, against 26,107 tons; 48% muriate of potash, 18,482 tons, against 22,800 tons; 20% manurial potash salts, 43,104 tons, against 49,409 tons; 30% ditto, 16,944 tons, against 15,068 tons; 40% ditto, 94,885 tons, against 82,566 tons. Kainit and sylvinit, 1,074,417 tons, against 1,108,640 tons; carnallit and rock kieserit, 43,807 tons, against 46,341 tons; block kieserit, 15,246 tons, against 19,699 tons. The set-back is of bad augury in view of the prospective advent of new producers, and the position of the Syndicate leaves much to be desired, in spite of the recent patching up of differences.

GUM ARABIC IN EGYPT.

GUM arabic, which forms one of the more important minor exports in Egypt, is really the sap from a special kind of tree, which grows from 3 to 5 yards in height, whole forests of which are found in the Kordofan province, and also near Gedid, in the White Nile province. The natives are free to collect the gum, the only tax being a royalty levied at Omdurman. This royalty, which last year was about p. t. 12 (61 cents) a cantar (99 pounds), varies according to the market price of the gum, and is fixed annually by the Soudan government.

The seasons during which the trees yield their sap, according to the *Journal of the British Chamber of Commerce in Egypt*, in which these notes appeared, runs from December to May. Prior to gathering the "crop," the natives prepare the trees by slightly cutting the bark in numerous places. The sap then exudes, solidifies in the shape of large and small lumps, and is afterwards gathered by hand, such gathering being done before the rainy season commences.

There are two main classes of gum, *viz.*, ambery and bleached. In the latter case the gum is merely exposed to the strong action of the sun—generally in Omdurman—while in the former instance it is allowed to retain its natural amber colour.

At the present moment the Soudan article experiences great competition from the Senegal gum, while in certain trades dextrine replaces gum when the price of the latter is too high.

The *Journal* also observes that the selling price of gum arabic during the past six years shows a heavy decline. In 1901 the average price per kilogram was nearly 38 milliémes (17½ cents), while last year this figure dropped to 20 millémes (10 cents). The yield, too, in 1906 was the lowest since 1901.

THE NEW GERMAN CUSTOMS TARIFF.

THE last annual report of the Hamburg Chamber of Commerce contains the following observations as to difficulties attending the introduction of the new German customs tariff last year.

"The introduction of a new customs tariff, particularly when the same contains so many changes in its arrangements as the new German tariff which came into force on March 1, 1906, must necessarily be attended with great difficulties for all concerned; that is to say, more especially for the commercial classes and for the customs authorities. In the case of the new German tariff these difficulties have been greatly increased by its far reaching 'specialisation'; for it differentiates even between such articles as closely resemble each other in their nature, and between which in many instances no difference is made by the trading public; and it is so complicated that, in order to ensure its correct application, it has been necessary, in addition to the publication of an official list of dutiable goods (alphabetically arranged and provided with numerous notes), to issue also a volume of instructions, 300 pages in length, to the German customs officers, and these instructions have, in their turn, been supplemented by numerous periodically published official directions for the use of the customs authorities.

"The study and the attention required for carrying out all these instructions and directions in themselves alone make heavy demands upon the customs officials and upon the commercial classes concerned; more especially as many of the former customs regulations which were not directly affected by the introduction of the new tariff have now also been revised, a measure which might well have been postponed until some later time. What, however, is yet more serious, is the heavy amount of work entailed upon the German customs authorities by the numerous very minute investigations and analyses necessitated by the new tariff; and these are, moreover, the cause of very great delay in the customs clearance of many different kinds of goods, and the consequent accumulation of the latter in the custom-houses, thus creating a source of many difficulties for all concerned in their importation."

The Hamburg Chamber of Commerce is of opinion that the great difficulties with which the introduction of the new customs tariff has been attended were evidently not sufficiently foreseen and provided for by those who framed the tariff and who drew up the numerous instructions bearing upon its practical application, and the Chamber earnestly hopes that the German Government will seriously consider whether, in view of the experience now already gained, it may not be advisable to modify and simplify those instructions, and, if possible, also the customs tariff itself.

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OLIVE OIL IN ITALY.

THE exportation of olive oil from the Province of Lecce (so far as can be ascertained from Customs and Chamber of Commerce records) has been as follows during 1906, as compared with the exports of the four preceding years :—

Description.	1906. Tons.	1905. Tons.	1904. Tons	1903 Tons.	1902. Tons.
Foreign countries—					
United Kingdom ..	664	429	849	713	656
Russia	99	174	349	189	255
Austria Hungary ..	270	48	153	67	550
Malta	..	2	3	48	39
Egypt	132	..	..	..	..
Brazil	..	165	..	..	..
United States ..	21	21	20	19	62
Germany	..	..	..	..	143
Netherlands ..	..	..	..	82	154
France	105	..	..	..	..
Belgium	..	..	..	..	73
Turkey	..	..	15	..	173
Sweden	..	52	..	..	..
India and China ..	20	117	..	..	..
Other countries ..	7	40	313	54	21
Total	1,318	1,048	1,702	1,172	2,126
Home ports—					
Venice	7,777	4,220	5,061	3,368	2,981
Genoa	4,756	2,780	2,109	1,210	1,721
Naples	409	280	717	122	64
Ancona	676	1,130	935	383	433
Bari	2,088	140	669	163	773
Sicily and Sardinia	405	..	486	709	939
Leghorn	629	475	668	683	557
Total	16,740	9,025	10,645	6,638	7,468

The reports as to the appearance of the olive trees at the date of the British Consul's report were not reassuring ; it is considered that the flower has sustained extensive damage.

THE BRAZILIAN WHALING INDUSTRY.

THE annual report of Mr. Consul O'Sullivan Beare (Bahia) contains some notes on the whaling industry.

Whaling is a pursuit which affords occupation to a large number of fishermen at Bahia during four months in every year. At the commencement of each cool season, whales regularly make their appearance from the south in the waters off the coast of this State. The first whales arrive usually about the middle of the month of May, and from that time onwards until the end of the month of September the waters along the coast, between Assu on the north to Cannavieras on the south, a distance of about 300 miles, literally swarm with whales, which have selected the strip of sea coast in question as their annual breeding ground. Frequently, during the season in question, whales enter the Bay of Bahia, and are there pursued and captured. Towards the end of the month of September the whales depart in a body, heading north, to be seen no more in these waters until the following season. What becomes of these whales from the time of their departure northwards during September until the time of their return out of the south during May of the following year is one of the mysteries of the ocean which still awaits solution.

The whales which visit the Bahia coast belong almost exclusively to the species *Balaenoptera musculus*, which are large of size on the whole ; some captured have measured over 70 feet in length.

The whaling season extends throughout the months of June, July, August, and the first two weeks of September. The Bahia men employ in their pursuit of the whales native-built double-ended open sailing boats of from 25 to 30 feet in length, each boat carrying a crew of from 8 to 12 hands. These boats prove serviceable enough for their purpose, if somewhat heavy, but they are entirely lacking in the beauty of model, the buoyancy and the handiness which characterise the incomparable whale boats of American build. The weapons employed by the Bahia whalers are the harpoon and the lance. The carcases of whales killed have all to be towed to the island of Itaparica, situated on the south side of the Bay of Bahia, where are located the trying-out works for boiling down the blubber. The men lose a considerable proportion of whales killed each season owing to their inability in many instances to tow the carcasses to Itaparica Island by reason of head winds or of heavy weather supervening after the whales have been secured.

The only portion of the *Balaenoptera musculus* reckoned to be of value is the oil, except indeed the flesh, of which the lower classes in Bahia are inordinately fond when they can procure it in a state of at least moderate freshness. The *Balaenoptera musculus* yields neither spermaceti nor whalebone. The yield of oil in the case of the species of whale in question is in proportion usually to the bulk of the carcass. An average yield is 700 gallons, but it is on record that some have yielded 1,200 gallons and upwards. The output of whale oil at Bahia varies considerably from season to season, the average being from 1,000 to 1,200 tons.

The whaling fishery here is not conducted on as large a scale or as vigorously as might be, and the methods adopted by the Bahia men for capturing the whales and for preparing the oil are of a very primitive nature. The industry is certainly susceptible of great development. Thus for example the employment of small steamers furnished with bomb guns, such as are used for killing the white whales off the Norwegian coasts, would ensure the killing of a much larger number of whales here than is practicable by the methods now in vogue, and the employment of such steamers would obviate the loss of carcases such as now occurs through inability on the part of the captors to tow them to the trying-out stations.

The British Consul suggests to British owners of whaling vessels the advisability of sending one of their ships on a trial cruise to these waters during a whaling season. So far as he can ascertain there exists no provision in the legal code of Brazil, whether Federal or State, which prohibits foreigners from fishing within territorial waters of the Republic. As regards a possible difficulty in connection with the matter of extraction of oil, that operation could be effected if necessary on board the whaling ship, as is done in the case of sperm whales.

Whale oil is graded at Bahia into two qualities, "refined" and "ordinary quality." During 1906 the price of ordinary quality oil averaged £14. per ton, c.f., and the price of refined oil averaged £22. 10s. per ton, c.f.

Refined whale oil as prepared at Bahia resembles cod-liver oil so closely in the attributes of colour, consistency, odour and taste as to be almost indistinguishable therefrom. The oil in question enjoys a high reputation locally for its medicinal properties and is preferred indeed to cod-liver oil. The point as to whether Bahia whale oil is really possessed of medicinal virtues akin to those of cod-liver oil assumes importance in view of the fact that refined whale oil is considerably lower in price than cod-liver oil. There are unfortunately only too many sufferers, consumptives especially, who would benefit from taking cod-liver oil regularly, but for whom the high price of that article is prohibitive. In the interests of such persons it is certainly worth determining as to whether or not the comparatively cheap whale oil constitutes an efficacious substitute for the more costly cod-liver oil.

Samples of "ordinary" and "refined" whale oil as prepared at Bahia can be inspected at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E. C.

PATENT OFFICE FEES.—In a printed reply to Mr. Barnes, Mr. Lloyd-George says he is aware that the Patent Office fees have yielded a considerable profit of late years, but at the present time, whilst the office expenses are increasing and new duties are being thrown on the office by the Patents and Designs Bill, he can give no undertaking to reduce such fees. Mr. Lloyd-George adds that he does not believe that it would be to the interest of poor inventors to substitute for our present fees those chargeable in the United States, which would benefit the comparatively small number of successful inventors at the expense of the much larger number of unsuccessful inventors who can less afford to pay. He points out that the total fees in the United States amount to £7., and the patent remains in force for seventeen years. In the United Kingdom the fees up to the end of the fourth year amount to £5., and as over 65% of British patents are allowed to expire at the end of the fourth year the fees compare favourably with those of the United States. In regard to the additional £5. charged in the United Kingdom at the end of four years, it may safely be assumed that only such patents will be renewed as have met with some measure of success, in which case the fee is a comparatively unimportant matter.

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Continental Notes.

IN the *Electrochemische Zeitschrift* for August there appears an account of an interview between M. U. Schoop and T. A. Edison, which is interesting as throwing light upon the methods of the American inventor. The conversation dealt largely with the iron-nickel accumulator, about which there has been so much discussion of late years, and which appears to have such a great future before it if only the inherent difficulties can be overcome. Edison was very open concerning the many failures which he has had both commercially and technically, and which would have been enough to discourage most inventors. For ten years he has worked at the solution of this problem in laboratories fitted out with every modern appliance, and assisted by a staff of forty trained electricians and chemists. He says that he has already spent a million dollars upon it. The iron electrodes especially presented many difficulties, as they showed most unaccountable variations in behaviour, and some rapidly lost their property of taking up the electricity, although others, prepared in the same way from the same raw material, were quite satisfactory. A works is now being erected for the manufacture of these new accumulators, and will be opened next June, the old factory at Glen Ridge River having been closed some months ago. Schoop states that it is a mistake to suppose that Edison has acquired great wealth with his many inventions (although he holds the world's record with 600 patents), for tremendous sums are spent on the laboratories, the advertisements conducted in the American manner, and patent lawsuits. Moreover, Edison is not so good a business man as an inventor. The obstinate perseverence with which he continues to work at the perfection of an invention with which he is not entirely satisfied has more than once failed to bring him an adequate financial return. To the magnetic separator for iron ores, for instance, he devoted eight years of continuous work without achieving commercial success, for although the separator works as Edison intended, it is much too expensive. The greater number of these separators have now been erected in the "Edison" cement factory, the product of which has great advantages over ordinary cement, and stood the test of the San Francisco earthquake very well, as the buildings constructed of "Edison" cement did not collapse. The cinematograph business is, however, going very well, and the same applies to the copper-zinc primary element. Of the buildings in connection with the laboratories one is devoted entirely to chemical research, and here Edison spends his time when he is not called away elsewhere. It cannot be denied that in many cases Edison was not the real inventor of the appliances with which his name is coupled; but in such instances we are indebted to Edison for putting into practice some fundamental idea, or for improving a very imperfect invention. This applies to the incandescent lamp, the cinematograph, and also the alkaline accumulator.

In the same issue there is some interesting information about the manufacture and use of artificial graphite, of which the International Acheson Graphite Co., in their large new works at Niagara Falls, made over five million tons in 1906. Besides being used for electrodes in electro-metallurgical and electro-mechanical operations, the material is applied in the manufacture of paints, for filling dry cells, for electrotypy, for lead pencils, and as a lubricant. In connection with the last application Acheson has recently made some very important discoveries, as he has found a means of obtaining graphite in a very fine state of division, suspended either in water or mineral oil. In either case the lubricating effect is a very high one. The water-graphite mixture is especially suitable for use in the cylinders of steam engines and other positions where there are objections to the use of oil. In the case of the oil lubricant the effect of the graphite is to make it possible to use a very light oil where formerly only a heavy one could be applied.

There is also in the same issue the final portion of a paper by Dr. Kraush, on developments in the electrical production of ozone. The paper consists mostly in reproductions of illustrations and particulars from patent specifications.

Another item that appears in the same number is the concluding portion of a translation of the preliminary report of the committee appointed by the Canadian Government to investigate the smelting of Canadian ores by electro-thermic methods. Instalments of this report have been appearing in the *Elektrochemische Zeitschrift* since April. The result of the experiments was favourable to the electrical process. The committee found that hematite can be treated by it as well as magnetite. From ores containing no manganese an iron can be produced containing only a few thousandths per cent. of sulphur, although the percentage of sulphur in the ore may be high. The silicon can be varied at will. Charcoal can be used instead of coke, and need not be briquetted with the ore. Ferro-nickel can be made from pyrrhotite containing nickel, and is of good quality, and practically free from sulphur. A 10,000 h.p. plant, which would be able to produce 120 tons of pig-iron a day, would cost 100,000 dollars, and the cost of production per ton would be 10.7 dollars.

Indian Notes.

RUBBER cultivation can be made to pay well in India. The Government plantations at Kulsi and Charduar, in Assam, are worked by the Forest Department. During the year, at Kulsi, the out-turn of rubber from 2,309 trees, occupying 88 acres, amounted to 4,120 lbs. The cost of tapping and harvesting was Rs.1,264.0, and the whole quantity was sold locally for Rs.12,428.0, the net profit being Rs. 11,164.0. The Charduar plantation, with 5,642 trees, occupying 388 acres, yielded 9,940 lbs. rubber. The expenditure on tapping was Rs.4,936., and the rubber was sold locally for Rs.29,827.0, or Rs.3.0. per lb. The net profit showed Rs.2.8 per lb. The Kulsi plantation has 160 acres, and Charduar 2,700 acres.

The working of the turpentine and colophony industry carried out by the Forest Department of the United Provinces shows that 105,891 trees tapped during the year yielded 287,444 seers of crude resin. The total collection and manufacture during the year gives:—Crude resin 339,920 seers, turpentine 10,664 gallons, and colophony 193,003 seers. The profits on the year's working were Rs.13,581; the values of the turpentine, colophony and crude resin having been taken at Rs.2.0. per gallon, Rs.5.0 per maund, and Rs.2.0. per maund respectively. With efficient and methodical organisation the business would yield a fair profit, and all that could be manufactured would find a ready sale.

During the last six years, owing to high prices, lac cultivators have reaped a fortune, and the amount is roughly computed at Rs.300,000,000. yearly. Yet there is room to double or treble this sum by putting lac seedlings on palas and other lac producing trees, which owing to ignorance are not at present used. There are four different qualities of lac, which are used for orange shellac, *viz.*, Baisakee, Cutkee, Jetee and Koosmy, and each derives its name from the Hindustani months in which it is collected. Besides these qualities there are the Assam, Rangoon, Siam, and Saigon lac, which are, however, too dark in colour, and are only used for garnet and dye. Manufacturers estimate that the Baisakee yields half the production of shellac, and the other half is made up of all the other qualities combined. The Baisakee crop just collected is estimated at 650,000 to 700,000 maunds, and the shellac made therefrom will be over 150,000 chests, a figure never yet seen by the oldest manufacturer of shellac in India.

Sugar-cane pests may be divided into insects and fungus pests, and for these remedies are sought. Insect pests are:—(1) The white ant or "dimak." The application of imperfectly fermented cattle dung particularly favours these. Copious irrigation, or the rains, are most effective. The native cultivator uses mustard cake, or a solution of asafœtida and common salt, to get rid of the pest. (2.) The sugar-cane borer; the larva burrows into the main stalk of the young plant. One pound of carbolic acid to 50 gallons of hot water is used, after which two pounds of slaked lime with one gallon of water is applied. (3.) Kari (black), dark spots on the surface of the leaves, when an insect appears and multiplies rapidly. The remedy is to burn the leaves. The fungus pests are (1) dark smut, which attacks the canes, and these not even cattle will touch. The remedy is burning. (2.) Red smut or "Lawahi," a most injurious pest. The leaves become pale as the disease progresses. There is no known remedy for this, and the whole affected crop is destroyed by fire. The area under sugar crops in India is 2,569,020 acres, and remedies for both pests, and also suitable fertilisers, are sought for.

THE STANDISH CHEMICAL CO.—It is announced that the Bone Works at Standish Lower Ground, Wigan, established in 1846 by Mr. Abraham Lloyd, have been purchased by a local firm, who have arranged to fit them up with the most modern plant for the manufacture of fine glues, gelatine, size, and manures. The new firm will be known as the Standish Chemical Co., and they expect to commence production in the course of a few weeks.

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THE GEMAN CHEMICAL TRADE IN 1906.—III.*

By Consul-General Sir William Ward.

(*Continued from p.* 168.)

Lubeck.

THE trade in Finnish tar compared with the previous year shows a slight retrogression. Only in the late autumn, when the higher demands somewhat abated, were small consignments disposed of. In September and October Swedish imports arrived and found quick sale. The stock, imports, and exports in 1906 are shown below :—

	Barrels.	Half-barrels.
Stock on January 1	11,304 ..	7,767
Imports	19,594 ..	5,240
Exports	15,954 ..	5,651
Stock on December 31	15,004 ..	7,356

Pitch.—The trade in Finnish pitch was steady. The following figures show the stock, imports and exports in 1906 :—

	Barrels.	Half-barrels.
Stock on January 1	971 ..	189
Imports	1,494 ..	343
Exports	1,673 ..	313
Stock on December 31	792 ..	219

Portland cement.—The cement industry, in which several large firms are interested, has been in a most flourishing condition, so that the over-production of former years has all been sold at remunerative prices, which compensate largely for the heavy losses of 1904 and 1905.

Cement.—Not only has there been an enormous demand for cement for building purposes at home, but large quantities have been shipped to foreign countries, especially to the United States and Chile. Although prices in 1906 ruled 25% higher than in the previous year, the supply hardly equalled the demand. The results for the early part of 1907 promise well for the continued prosperity of the rest of the year. The San Francisco disaster accounts for a large number of orders.

Asphalt.—The half-dozen companies engaged in the asphalt trade can look back with satisfaction on the year's results, handsome dividends having been distributed. The United Limmer Norwohle Rock Asphalt Company has for the sixth year in succession paid 10%, although its capital was increased by one-third in the beginning of 1906, and the competition grows fiercer every year.

Potash.—The potash industry is represented by a large number of companies in the neighbourhood of Hanover, where discoveries of new deposits have been the order of the day for a long time. It is of interest to know that the first discovery was made on property belonging to the Prussian State when a search was being made for cooking salts. When first discovered it received a designation equivalent to "rubbish salts," which is still retained in German official reports. A syndicate was formed as far back as 1880 for the purpose of advertising the possibilities of the new discovery and for controlling the price. The creation of new companies has caused much trouble to the syndicate, which embraces at the present time no less than 36, while there are almost as many more outside the pale. Thus there is undoubtedly an increased production ahead.

As the Government is an important member of the syndicate, the object in view is to sell to German consumers, the Agrarian party, at far cheaper rates than the export price.

The chief outsider is the Sollstedt mine, which, with a view to obtaining the American market, has been underselling the syndicate. The value of the total output of crude potash salts rose from £1,482,000. in 1898 to about £4,600,000. in 1906. Speculation in potash shares has been very active, reaching its highest point in 1905. The nationalisation of the Hercynian mine early in 1896 gave rise to the idea that other mines might also be acquired by Government, and the prices improved, holders believing that Government would give good value for their properties. This, however, proved erroneous, so that at the end of 1906 prices were considerably lower than in the previous year.

* Special abstract of the British Consul-General's Annual Report on the Trade and Commerce of the Consular District of Hamburg for the year 1906.

FERRO-SILICON.

THE Board of Trade has received from the Home Office the following Memorandum (which is reproduced from the *Board of Trade Journal*), relative to the dangerous properties of ferro-silicon :—

"Professor Cronquist, of Stockholm, who was instructed to investigate the causes of the death of four of the passengers on board the Swedish steamship *Olaf Wijk*, confirms the view that their death must be attributed to the gases given off by ferro-silicon contained in the hold under the cabins.

"High-grade ferro-silicon, although it has been known to chemists for many years, has only recently been prepared on a large scale for technical purposes; *i.e.*, for adding to steel to increase the proportion of silicon; in steel rails about 0.5% of silicon is required in the finished steel, and in high silicon castings about 0.25%.

"It is made by heating together iron ore, quartz, coke and lime (as a flux) to an enormously high temperature in the electrical furnace; the coke reduces the quartz and ore to silicon and metal with the production of ferro-silicon containing up to 80% silicon. It is generally packed in iron drums or casks for export.

"Certain kinds of ferro-silicon seem to be decomposed, or rather disintegrated into powder, by the action of moist air; this apparently is not dependent on the proportion of silicon present, as specimens containing up to 80% silicon have been found to remain unchanged for weeks.

"Its poisonous properties can be simply explained by the fact that it is liable to evolve phosphoretted and arseniuretted hydrogen in contact with moisture. The iron ore and quartz often contain phosphates, which, in presence of carbon, and at the high temperature of the electrical furnace, would no doubt be converted into phosphides, combining with the lime to form calcium phosphide; in the same way any arsenic present would yield calcium arsenide. These would be decomposed in presence of water and would evolve phosphoretted and arseniuretted hydrogen, both of which possess powerful poisoning properties.

"The explosions that have occasionally occurred are more difficult to explain, and various theories have been put forward to explain them. These properties of ferro-silicon indicate that considerable danger is connected with its transport, not only to persons on the ship, but to dock labourers engaged in unloading it at docks. *Prima facie*, it seems that the presence of moisture is the cause of the accidents, and every effort should be made to ensure that the material is in a dry condition when packed, and that there is no possibility of moisture gaining access to the receptacles containing it."

CEMENT IN BRAZIL.

UNITED STATES CONSUL A. R. MORAWETZ reports as follows on the purchases of cement at Bahia :—

The imports of Portland cement at Bahia in 1905 were 20,000 barrels. There was an increased import in 1906 and should be a greater one in 1907. It is imported almost exclusively from Germany and Belgium in equal amounts, England and the United States supplying only a small fraction of the quantity consumed. The prices paid in Germany and Belgium are practically the same, although the cement from the latter country is considered a trifle better in quality. The first cost in both these countries is lower than in the United States, but the quality of American cement is better than either the German or Belgian product. The sale of an article here depends much more on the price than on the quality, and for this reason there is a larger quantity of German cement sold than of any other kind. It has the further advantage that freight rates are lower from Germany than from any other country, and also that its credit arrangements are more favourable than can be obtained from American manufacturers. There is no concrete used in the construction of buildings, and cement bricks are unknown here.

The selling price of German cement is from $3.36 to $3.66., and of Belgian from $3.97. to $4.27. per barrel, at the present rate of exchange of 3.275 milreis to the dollar. The duty at this rate is now $1.50. per barrel of 375 pounds net. Cement is always imported in barrels, which are not included in the weight when the appraisement for duty is made.

Exports of Argols from Italy.—Mr. Consul Cocoto, reporting on the trade of Lecce during 1906, states that the total exportation of argols by sea amounted to 1,236 tons, wine lees totalling 934 tons.

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Analytical Notes.

THE CONSTITUTION OF AMMONIACAL LIQUORS.*

(*Continued from p.* 172.)

MR. LINDER'S MEMORANDUM.

ANALYSIS OF SATURATOR GASES (COLD AND HOT).

(*a*) *Cold Gases.*—A method for estimation of CO_2 and H_2S in cold saturator gases was described in Report 1903, p. 53:—100 c.c. of the gases were collected in a Bunte burette, caustic soda was then run in, and the contraction noted; unabsorbed gas was taken to be residual nitrogen; the sulphide was determined by titration with $\frac{N}{10}$ iodine, and the CO_2 obtained by difference.

For estimation of hydrocyanic acid a much larger volume has to be taken, as the amount of HCy in saturator gases is often less than 3% of the dry gases. Analysis is satisfactorily accomplished by means of a large stoppered cylinder of determined volume (1000-1100 c.c.), the gas obtained being absorbed by caustic alkali as before; H_2S and residual nitrogen are determined in independent sample by Bunte burette, and the CO_2 obtained by difference. A description of the apparatus and procedure will be found in Appendix, p. 52.

Analysis of the cylinder sample for cyanide was found to present exceptional difficulties:—Feld's method of distillation with lead nitrate proved to be inapplicable, as a considerable proportion (15 to 20%) of the cyanide becomes converted into thiocyanate by air necessarily introduced with the alkali; the total cyanogen contents is too small to be determined by the silver nitrate method described later. The difficulty was at length overcome by special procedure; this is fully described below.

(*b*) *Hot Gases.*—The problem of sampling hot gases for analysis was less easy of solution:—If the collecting vessel be kept cold, steam condenses freely, the constituent gases dissolve in the liquor in unequal proportion, and temperature and pressure measurements are thus rendered impossible. On the other hand, if the vessel be jacketed with steam or hot water, the weights of carbonate, sulphide, and cyanide obtained are insufficient for exact analysis. The difficulties were successfully overcome in the following manner: The hot gases were first allowed to stream through the cylinder to displace air and heat the walls to approximately flue temperature, the exit end was then closed, and the cylinder cooled by water. Rapid condensation was thus induced, a partial vacuum ensued, and a further volume of hot gases entered the cylinder, to be in turn condensed. As soon as a sufficient volume of liquor was collected, the cylinder was detached, caustic alkali run in, and undissolved gases absorbed in the usual way. The resulting solution contained carbonate, sulphide, and cyanide in a given, but unknown, volume of the hot gases. It only remained to determine the weights of these constituents present in an aliquot portion of the solution to obtain the data necessary for calculating the relation of the CO_2, H_2S, and HCy present in the sample of gas collected.

Estimation of Small Amounts of Cyanide in Gas Samples by Modified Polysulphide Method.—The use of polysulphide for the absorbtion and estimation of hydrocyanic acid is well known to technologists familiar with cyanogen recovery processes:—

The solution of thiocyanate obtained is freed from sulphide by boiling with lead carbonate, and the thiocyanate separated as cuprous salt, to be subsequently recovered as alkaline salt and titrated on silver nitrate.

In the present investigation the amount of thiocyanate available for analysis was, in general, too small for precipitation by copper sulphate way, and special procedure had to be devised to remove sulphide, organic matter, and thiosulphate from the test solution before titration with silver nitrate:—Sulphide was removed by neutralising the solution with sulphuric acid and boiling organic matter and thiosulphate by digestion at 90° to 95° C. with iron alum.

The specific action of this reagent has been investigated by Fordos and Gélis (Dammer's "Handbuch der Anorg. Chem." III. pp. 326 and 327; and Journ. Pharm. (1843) 4, 333). They show that thiosulphate is oxidised to tetrathionate, a body which has no injurious effect upon the silver titration, if the solution be cold and dilute. The excess of iron alum separates from solution as basic salt and can be filtered off if desired, but this is unnecessary.

The following procedure gives the best results:—

To 100 c.c. of solution add ammonium polysulphide in sufficient excess to colour it strongly yellow; raise to the boil and nearly neutralise with dilute sulphuric acid—approach of the end point is indicated by the sulphur separating white. Boil for 15 minutes to expel sulphuretted hydrogen, cool to 90° to 95° C., add 5 c.c. of saturated iron alum, and filter, after allowing the solution to stand a few minutes to complete the oxidation. Cool the filtrate, acidify with 5 c.c. of nitric acid, shake to dissolve hydrated oxide, and filter from residual sulphur. To the filtrate add 1 c.c. of iron alum and titrate on $\frac{N}{10}$ silver nitrate.

1 c.c. = .0027 gram HCyS, as HCy.

In general, the presence of organic bodies in the test solution causes the end point to be slightly yellow. It is more accurate, therefore, to add the silver in slight excess and bring back with $\frac{N}{10}$ NH_4CyS.

The following solutions are required:—

1. Normal ammonium polysulphide. Saturate 100 c.c. of N. ammonia with sulphuretted hydrogen and dilute with 100 c.c. of the same solution; add excess of flowers of sulphur, and digest for a week with occasional shaking. The supernatant liquid is withdrawn for use as required.

2. Nitric acid free from oxides. A litre of pure, concentrated acid is diluted with one-fourth of its volume of water, and boiled till white. Keep in the dark.

3. Saturated solution of iron alum.

Solutions throughout must be free from chloride.

Special experiments were made to test the procedure; the following conclusions were reached:—

1. *Action of iron alum upon thiosulphate.* Thiosulphate is rapidly oxidised to tetrathionate by iron alum at 80° to 90° C. Oxidation can never be completed so far as to yield a filtrate without action on iodine, thus:—

Thiosulphate taken, as sulphur .064 gram.
Thiosulphate found (after oxidation) .0006 gram.

2. *Action of iron alum upon ferric thiocyanate.* Thiocyanate is not affected by excess of iron alum, even in boiling solution. Thus:

Thiocyanate taken, as hydrocyanic acid .0054 gram.
Thiocyanate found, (1) boiled 3 mins. with 3 c.c. of iron alum .0054 gram.
" (2) boiled 6 mins. with 3 c.c. of iron alum .0054 gram.

3. *Removal of thiosulphate in presence of thiocyanate by iron alum.* Direct titration of thiocyanate in presence of thiosulphate invariably leads to high results, silver thiosulphate being formed and ultimately sulphide, even when nitric acid is present in large excess and the solution kept cold and dilute. Thus:—

Taken:—Thiosulphate, as sulphur .0032 gram.
Found:—(*a*) Thiocyanate, as hydrocyanic acid .. .. .. .0054 gram } difference + .0024.
Thiocyanate, as hydrocyanic acid .. .. .0078 gram }

The tetrathionate produced by treatment with iron alum has no effect on the silver titration if the necessary precautions are observed. Thus:—

Found, (*b*) thiocyanate, after removal of thiosulphate by iron alum, .0053 gram.

4. *Cyanide and thiosulphate do not react to form thiocyanate under the observed conditions.* Thus:—100 c.c. of a solution containing excess of ammonium cyanide, ammonium thiocyanate, sodium thiosulphate, and ammonia in slight excess were boiled for 15 to 20 minutes, 3 c.c. of saturated iron alum added, and the boiling continued for 5 minutes; the solution was then filtered, and thiocyanate determined by N $AgNO_3$.

Taken:—Thiosulphate, as sulphur .. .. .0200 gram.
Thiocyanate, as hydrocyanic acid .. .0054 "
Found:—Thiocyanate, as hydrocyanic acid .. .0054 "

The following example is typical of the results obtained in an actual estimation of hydrocyanic acid by this method, thiosulphate being present in the ammonium polysulphide used—Thus:—

Cyanide taken, as hydrocyanic acid .. .. .0097 gram.
" recovered as (thiocyanate, as hydrocyanic acid) .. .. .0094 "

The method is equally applicable for estimation of sulphur as polysulphide. For this purpose the cyanide must be in excess

*From the 43rd Annual Report on Alkali etc. Works, by the Chief Inspector.

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from the start, to ensure complete reduction of $(NH_4)_2S.S_x$ to $(NH_4)_2S$; ammonium cyanide and sulphide are then boiled off, and the solution treated with iron alum exactly as described above.

1 c.c. $\frac{N}{10}$ $AgNO_3$ = .0032 gram sulphur as polysulphide (S_x).

Thus:—

In solution containing sulphide, thiosulphate, and polysulphide, sulphur found—

Sulphide by iodine titration	.0155
Thiosulphate ,, ,, ...	.0007
Polysulphide (S_x)	.0278
Total	.0440
Total sulphur by bromine oxidation ..	.0445

Mr. G. W. F. Holroyd, to whom the iron alum method of removing thiosulphate was communicated, informs me that he has found the procedure equally effective for removal of thiosulphates in the estimation of hydrocyanic acid in coal gas by polysulphide method and thiocyanate in trade liquors. He has compared the results so obtained with those yielded when the thiocyanate is estimated by precipitation as cuprous thiocyanate in boiling solution as described above (p. 40), and finds that a great saving of time is effected without any loss of accuracy. I am indebted to him for permission to quote the following:—

1. *Determination of Hydrocyanic Acid in Crude Coal Gas by the Polysulphide Method.*

	HCy found, Calculated as NH_4CyS. Lbs. per million c.ft. Expt. 1.	Expt. 2.
(*a*) By precipitation as cuprous thiocyanate ..	325	350
(*b*) By oxidation with iron alum	329	351

2. *Determination of Ammonium Thiocyanate in Liquor from Cyanide Scrubber.*

	Ammonium Thiocyanate NH_4CyS. Lbs per gallon. Expt. 1.	Expt. 2.	Expt. 3.
(*a*) By precipitation as cuprous thiocyanate	3.65	4.08	3.78
(*b*) By oxidation with iron alum ..	3.70	4.17	3.87

Mr. Holroyd uses 10 c.c. of saturated iron alum for oxidation, and allows the hot solution to stand four minutes before filtration from hydrated oxide.

Works Tests.

It has already been shown that study of the properties of ammoniacal solutions leads to the conclusion that on distillation such liquors yield the whole of the carbonic acid, sulphide, and cyanide together with ammonia and steam, and that when the mixed gases are passed into boiling dilute sulphuric acid ammonia is fixed as sulphate, the CO_2, H_2S, and HCy passing forward to the condensing system in proportions corresponding exactly with those existing in the liquor distilled. The correctness of this assumption has been established by careful analysis of saturator gases under working conditions. Great difficulty was experienced in obtaining the necessary data on account of the large volume of water vapour with which the hot gases are charged. On cooling, liquor separates which holds in solution carbonic acid, sulphuretted hydrogen, and hydrocyanic, in amounts determined by the partial pressures of the constituent gases, and their respective solubility factors at the temperature of the liquor with which they are in contact. These factors are widely different for the three constituent gases, that for hydrocyanic acid being by far the greatest. Thus, in one work, where the gases leaving the saturator contained 2.9 parts of HCy per 100 volumes of gases at 215° F., the "devil liquor" that separated at 136° F. contained in solution 43 parts of HCy per 100 volumes of CO_2, H_2S, and HCy condensed. Such selective condensation has a very marked effect upon the hydrocyanic acid contents of the gases, and it is only at the saturator exit itself—before the gases have had time to cool—that the full HCy content is found. Exact analysis of the gases at this point presents very great difficulties, and was only successfully accomplished after extended research.

In interpreting any given set of results, consideration must also be given to the treatment of the "devil liquors" condensed. If these are returned to the still, either directly or associated with crude ammoniacal liquor, the dissolved gases will be revolatised in the still and pass forward to the condensing system together with gases derived from the ammoniacal liquor itself. The actual composition of the gaseous mixture leaving the saturator is in such case determined by the CO_2, H_2S, and HCy in liquor contributed from *two distinct* sources of supply. The first, that of ammoniacal liquor, fed into the system from without, from coke oven or gas retort scrubbers; the second, the body of liquor condensed in the system itself, and holding in solution gases which circulate, as it were, between condenser and still. Redistillation of this (devil) liquor profoundly affects the condition of the *hot* gases entering the condensing system, but has little or no effect upon that of the *cold* gases leaving it.

Thus, if—

Volume of HCy per cent. contributed to still gases (CO_2, H_2S, and HCy) by ammoniacal liquor proper be .. X (HCy entering system).

Volume of HCy per cent. contributed to still gases (CO_2, H_2S, and HCy) by devil liquor be .. .. *x* (HCy condensed).

Total HCy per cent. in gases leaving still will be .. .. X + *x*

Then we have—

Volume of HCy per cent. in gases leaving saturator .. .. = X + *x*

Volume of HCy per cent. condensed with devil liquor .. = *x*

HCy leaving in cold gases .. X (=HCy entering system).

Due consideration must be given to the above facts by any investigator who seeks to determine the exact relation existing in any given work between the composition of the liquor distilled and that of the saturator gases obtained therefrom. If the devil liquor is returned to the crude liquor well and fed to the still with the ammoniacal liquor, analysis of a sample of the mixed liquor feed should afford all the data required for determining the relative proportions of CO_2, H_2S, and HCy in the gases leaving the saturator, *hot*. On the other hand, if the devil liquor be pumped *direct* to the still, an analysis of the ammoniacal liquor entering from the heater would afford data insufficient for this purpose; the composition of the gases theoretically obtained therefrom would correspond, in this case, not with that of the gaseous mixture leaving the saturator hot, but with that of the gases leaving the condenser *cold*.

Two examples are given in illustration:—

Example 1.—Devil liquor returned to crude liquor well. Mixed ammoniacal and devil liquors sampled as they enter heater together.

Gases sampled hot by cylinder in exit pipe from saturator 6 feet above the dome. Temperature, 215° F.

	1. Found.	1. Calculated from Liquor.	2. Found.	2. Calculated from Liquor.
CO_2	72.2	71.0	75.1	73.4
H_2S	24.9	25.6	22.5	24.0
HCy ..	2.9	3.1	2.4	2.6
	100.0	100.0	100.0	100.0

Here,

	1	2
HCy found in saturator gases	(X + *x*) = 2.9	2.4
,, calculated from mixed liquors .	(X + *x*) = 3.1	2.6

Example 2.—Devil liquor repumped to still direct. Ammoniacal liquor sampled apart from this.

Gases sampled cold by cylinder and Bunte burette beyond tubular water coolers. Temperature 80° F.

By Bunte burette per 100 vols. dry gases:—

	2.20 p.m.	4.40 p.m.	Mean.
CO_2	74.0	73.7	73.9
HCy			
H_2S	23.6	23.9	23.7
Residual nitrogen	2.4	2.4	2.4
	100.0	100.0	100.0

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By cylinder per 100 vols. dry gases :—

	2 20 p.m.	4 40 p.m.	Mean.
CO_2	—	—	—
HCy	2.8	2.9	2.8
H_2S	22.6	22.9	22.8
Residual nitrogen	—	—	—
	100.0	100.0	100.0

Whence, combining these results, and excluding nitrogen by calculation :—

	Found.	Calculated from Gas Liquor.
CO_2	72.9	73.5
H_2S	24.3	23.7
HCy	2.8	2.8
	100.0	100.0

Here,

HCy found in saturator gases .. .. (X) = 2.8.

,, calculated from ammoniacal liquor (X) = 2.8.

Results confirmatory of these conclusions have also been independently obtained at a coke oven works, where excellent agreement was established by the works chemist between CO_2, H_2S, and HCy contents in hot gases leaving saturator and carbon, acid, sulphide, and cyanide in liquor distilled.

Yield of Cyanogen per cent. to Ammonia.—In Report 1905, Table I., p. 46, first column, "Per cent. Cyanogen to Ammonia," comparative figures were given of the average cyanogen contents of liquors calculated as a percentage on the total ammonia present. These figures relate strictly to the condition of the liquors *as distilled* and not as produced in the scrubbing and condensing systems : in some of the individual analyses from which the averages are calculated results relate to mixed devil and ammoniacal liquors, in others to ammoniacal liquors alone—at that date the characteristic part played by devil liquors in raising the cyanide content of the ammoniacal liquors distilled had not been determined. It is not permissible, therefore, to draw any conclusions from the figures there presented respecting the relative *yield* of cyanogen from the four sources of supply under comparison. Even had the devil liquors been excluded from the samples, other factors operate to minimise the comparative value of the figures : the cyanogen retained in scrubbing and condensing systems, however perfect, is only a portion of the whole leaving the retorts, ovens, or furnaces ; and, further, in some of the work under consideration waste gases from the sulphate plant containing CO_2, H_2S, and residual HCy are returned to the crude gas main and rescrubbed before final treatment and discharge.

THE USE OF ZINC IN ASSAYING COPPER MATTE, ETC.

D. M. Levy (*Trans.* I. M. M., May 16, 1907) has substituted zinc for aluminium for removing the copper from solution in the assaying of matte in which iron is also to be determined. Zinc does not interfere with the delicacy of the iodide estimation for copper, so that method may be used. The author finds that with zinc a more complete separation is obtained than with aluminium, the conditions are less rigid,and the method is more suitable than the thiosulphate, and can be advantageously used with most copper-bearing materials met with in works practice, especially when both copper and iron have to be determined. The zinc used is in thin strips about 3 x 0.25 in., rolled up for about half their length, so that they float vertically in the liquid and extend the whole depth of the solution.

The assay is conducted by dissolving the matte in fuming nitric acid, diluting with 20 c.c. of water, 5 c.c. strong sulphuric acid added, and the solution heated to copious white fumes. When cool,60 c.c. of water are added, and the solution heated to a gentle boil, when the zinc is introduced and a small funnel inserted in the mouth of the flask. When the precipitation and reduction are complete, the funnel is washed and removed, and a glass-wool plug placed in it. The solution is then decanted through the wool, the flask rinsed out with dilute sulphuric acid several times, passing the rinsings also through the wool. The iron in the filtrate is then immediately titrated with permanganate or bichromate. The funnel is then replaced in the mouth of the flask, a little nitric acid poured on the wool to dissolve any copper there, washing with about 20 c.c. of water. The funnel is removed, and the iodide method for copper proceeded with in the usual way. A blank should be run on each fresh lot of zinc.—*Engineering and Mining Journal* (New York).

Reports of Companies.

NORTH BORNEO TRADING CO.

At the ordinary general meeting of shareholders last week, Mr. A. J. Scrutton, who presided, said that writing on June 29 last their manager stated that the output of rubber was being slowly increased, and then amounted to 420 lbs. of sheet rubber per month. The better state of the timber market at the end of 1906 and the beginning of this year had eased the financial position in Borneo, and the manager had been instructed to augment his labour force by importing coolies from Java. At present 1,250 lbs. of their rubber was on the way home from Borneo. The Board's policy was to dispose of the Sekong rubber estate, and so provide means to develop other estates. It would be easy to sell the estate at a very low figure, or to a company for the greater part of the purchase consideration in shares ; but, as cash was required to develop other estates, the directors considered it better to nurse the Sekong property a little longer, as they believed that it was possessed of great potentialities. Instructions had been sent to the manager to prepare land on the company's Bode estate for rubber, and it was hoped that planting on that property to a considerable extent would be soon completed. Mr. Cusack asked what acreage they had planted with rubber. Mr. Bennett : Between 300 and 400 acres. A shareholder said that that was a small acreage in view of the land planted by other companies who had only started operations within the last few years. Mr. Bennett said that no one in Borneo besides this company had a rubber tree; other companies had merely seedlings. In answer to further questions, Mr. Bennett said that this company had 13,500 of what he might call "the older trees," 1,400 trees four years and two months old, 10,000 trees from three years and eight months to two years and eight months old, 5,600 trees two years and two months old, 45,000 trees 17 to 28 months old, and more than 100,000 seedlings.

RUSSIAN PETROLEUM AND LIQUID FUEL CO., LTD.

A meeting of the preference shareholders of the Russian Petroleum and Liquid Fuel Company was held on Tuesday last, to consider a resolution empowering the directors "to apply the investments of the reserve fund in accordance with the scheme to be submitted."

The Hon. Evelyn Hubbard, who presided, said what the company was suffering from was inadequacy of production as against the expenses. The directors had been negotiating with another company to get a supply of oil to enable them to meet their engagements. The suggestion was to invest their reserve in the securities of another company, or to advance money to that company, which in return would let them have oil on specially favourable terms. The directors did not want to force this on the preference shareholders, but were willing that the scheme should be postponed to some period in October. Under those circumstances the resolution would not be put to the meeting.

Mr. L. Lever expressed surprise at the decision of the directors not to press the resolution. The fact that they had made a loss was due to their having ceased to market their own oil, and not solely to the unrest in Russia. Seven companies suffering in that way had paid on an average 26%, the highest being 35% and the lowest 18%.

The Chairman said they had outlined the scheme, and the details, which would now have to be altered, would be put before the shareholders as soon as possible.

F. STEINER AND CO., LTD.

The report for the twelve months ended July 31, 1907, states that the working of the business shows a profit, after deducting directors' remuneration and providing £29,978. 6s. for repairs and depreciation of machinery, of £88,091. 18s. To this sum has to be added the balance of £12,289. 18s. 4d. brought forward from last year, making a total available balance of £100,381. 16s. 4d. After making payment of twelve months' interest on the mortgage debenture stock and preference shares, the balance at the credit of profit and loss account is £59,881. 16s. 4d. Out of this balance the directors have placed £22,000. to revenue reserve, and recommend a further six months' dividend at the rate of 6% per annum on the ordinary shares (making 5% for the whole year) leaving a balance to be carried forward of £14,131. 16s. 4d.

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Parliamentary Jottings.

HOUSE OF LORDS.

Tuesday, August 27.

The Patents and Designs Bill and the Patents and Designs (Consolidation Bill) were read the third time.

The Employers' Liability (Insurance Companies) Bill was read the third time.

Wednesday, August 28.

ROYAL ASSENT TO BILLS.

Royal Assent was given by Commission to 62 Bills, including the following :—Limited Partnerships, Advertisements Regulation, Patents and Designs, Patents and Designs (Consolidation), Factory and Workshop, Public Health (Regulations as to Food), Companies, and Whale Fisheries (Scotland).

HOUSE OF COMMONS.

Tuesday, August 27.

THE PREVENTION OF CORRUPTION ACT.

In reply to Mr. Lupton, the Attorney-General stated that there have been four applications for his *fiat* for prosecutions under the Prevention of Corruption Act, 1906. *Fiats* have been granted in three cases ; one is at present under consideraton. Convictions were obtained in all cases.

CONSULAR REPORTS.

The Foreign Secretary, replying to Mr. C. Price, said he would consider whether any general instructions could be given with advantage to Consuls abroad, to furnish with reports on the trade of foreign countries particulars as to the conditions of labour, wages, and cost of living. He thought, however, such matters were better suited for special inquiry by experts than for the regular reports of Consuls.

NICKEL FOR COINS.

In reply to Mr. Essex, Mr. Runciman stated that the Chancellor of the Exchequer did not believe that the substitution of nickel-bronze for bronze would be satisfactory to those who use most largely the existing subsidiary bronze coinage. Aluminium would not be a satisfactory metal for our coins, and both nickel-bronze and aluminium would be more costly. A concurrent issue and circulation of nickel and bronze coins would be attended with great practical difficulties, and the substitution of nickel for bronze in a coinage in which silver pieces of small denomination are so largely used would probably lead to much confusion and inconvenience.

Broken Hill Proprietary Co.—The following cable has been received from the head office in Melbourne :—Half-yearly statements have been issued showing a profit for the six months ended May 31 of £308,238. Net assets, £686,420., and profit and loss account shows a credit balance of £722,285. ; £17,386. has been expended in construction during the half-year, of which amount £10,349. has been on account of practically duplicating various plants ; 18,199 tons of ore treated in the furnaces at Port Pirie more than during past half-year, which is due chiefly to the additional amount of sintered slimes treated—43,352 tons, against 28,539 tons. Explorations in the lower levels are being vigorously prosecuted. Developments in the lower levels are estimated to have added to ore reserves 245,000 tons, and, as the tonnage of ore raised has been 290,000 tons, the estimates of ore remaining in the mine are much the same as past half-year. The total expenditure on account of exploration work amounts to £25,621., equal to 1s. 9d. per ton of ore raised. Concentration plant doing good work with better recovery in all metals, but working costs have increased all round, due to increased wages and the higher rate paid for water. Alterations have been made in the zinc concentration plant, and satisfactory results have been attained in the direction of better recovery metals ; average grade of concentrates, 41.81% zinc, against 40.66% in the past half-year, while for the past few weeks it has been over 43%. Output for the past half-year has been 2,695,800oz. silver and 29,427 tons pig lead. Average net prices obtained during the half-year :—Lead, £18. 6s. 5d. per ton ; silver, 2s. 9$\frac{7}{8}$d. per oz. fine. Profit for the half-year is equal to £1. 0s. 9d. per ton of ore treated, as compared with £1. 1s. 1d. per ton for last half-year. The increase in wages is equal to 2s. 2d. per ton of ore.

Correspondence.

*** *We do not hold ourselves responsible for the opinions expressed by our correspondents.*

THE BOARD OF TRADE RETURNS.

(To the Editor of the Chemical Trade Journal.)

Sir,—The banging of drums and the clashing of cymbals over the returns for July's foreign trade awaken a suspicion as to the equal accuracy of some of the totals when compared with what the reader imagines them to represent. The totals appear unequal for purposes of comparison, as the following contentions will exemplify.

The home exports are valued "f.o.b.," whilst the imports are valued "c.f.i.," and the re-shipments "f.o.b."

What do these symbols mean ? "f.o.b." means free on board, and "c.f.i." means cost, freight and insurance.

Home exports are valued at £40,452,000., imports at £52,213,004., and reshipments £7,388,000.

Take an article valued at £100. Firstly, this is to be exported, *i.e.*, sold, at a free on board price which includes all incidental expenses until the goods get on board the export steamer. They may be :—Cost of article, £100. ; railway carriage, dock dues, etc., 15s. ; total, £100. 15s.

Therefore the "f.o.b." value is £100. 15s., although only £100. worth of goods have been exported.

Secondly, the article is to be imported from abroad, *i.e.*, bought at "c.f.i." price, which includes all expenses from the foreign factory until the goods arrive at the English port. They may be :—Cost of article £100. ; sea freight from foreign port to England, £6. ; dock dues, railway carriage, &c., 15s. ; marine insurance, 7s. 6d. ; postage and petties, 5s. ; agent's commission on the transaction (5% on £107. 7s. 6d.), £5. 7s. 4d.—total £112. 14s. 10d.

Therefore the "c.f.i." value of the merchandise is £112. 14s. 10d., although only £100. worth of goods were bought.

Thirdly, as regards reshipments, when the £112. 14s. 10d. came to be reshipped, at what value would this amount be entered ?

Assuming these practical illustrations to be the method adopted in compiling the Board of Trade returns, it will be seen the "shipping charges" are computed as "goods." When the totals run into millions sterling, the difference between "f.o.b." and "c.f.i." valuations become startling.

From a Customs point of view, if duty is levied, the "c.f.i." valuation is excellent, as customs duty would be paid on £112. 14s. 10d., and not on £100., the value of the goods.

Can anyone offer any other solution ?

Yours, etc.,

London. Ajax.

CASEIN.

(To the Editor of the Chemical Trade Journal.)

Sir,—Kindly permit me to ask, through the medium of your columns, if anyone can tell me where casein is manufactured. I have frequently been shown cigar-holders, mouthpieces for feeding bottles, and other solid articles made from this by-product of milk, but I should very much like to know where and in what quantities this easily obtained raw material is being scientifically utilised, and what are the prospects of the industry.

Yours, etc.,

24th August, 1907. Liverpool Inquirer.

Electrical Measuring Instruments.—Messrs. Archibald Constable and Co. announce that they will publish during the autumn a new and comprehensive work on electrical measuring instruments, recorders, meters, etc., by Kenelm Edgcumbe, M.I.E.E.

Transvaal Industries.—The Government has decided to appoint a Commission to inquire into the condition of existing Transvaal industries, the possibility of their extension, and what encouragement and protection for them are necessary. The Commission is further to inquire into the effect of the Customs Union, the extent of white labour as compared with coloured labour, the extent to which the use of Asiatic labour in the neighbouring Colonies is prejudicial to Transvaal industries, the effect of the parcels post on local trade, and the desirability of amending the Customs tariff.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Softening and Purifying Water. A. G. Carey and W. Lawrence. 18,176. August 12.
Electrolytic Processes. J. H. Monge and C. Arzano. 18,210. August 12.
Balance for Weighing Fluids. H. Hülsen. 18,213. August 12.
Boiler Composition. W. Lambie. 18,278. August 13.
Feed-water Heaters. D A Cochrane 18,279. August 13.
Tar Spraying Machine. F. G. Barmes. 18,292. August 13.
Oxygen Burners. O. Hellstern and G. T. Vincent. 18,304. August 13.
Concentration of Diluted Lyes. L. Wallach. 18,312. August 13.
Gyratory Crushers. T. W. Capen. 18,325. August 13.
Glucose. G. Ekst öm. 18 341. August 13.
Electro-Metallurgical Induction Furnaces. H. Biewend. 18,338. Aug. 14.
Furnaces for Roasting or Calcining Ores. L. le B. Mount. 18,417. Aug 14.
Pipe Joints. Yarrow and Co. (Bolton), Limited, and M. Yarrow. 18,446. August 15.
Galvanising. H. H. Field and E. A. Atkins. 18,539. August 16.
Gas Producers. L. de B. Mount. 18,561. August 16.
Continuously Acting Concentrating Apparatus. P. Kestner. 18,576. August 16.
Isoprene. L. Gottschalk. 18,581. August 16.
Gas Blow-pipes. M. Kautz. 18,590. August 16.
Raising or Forcing Liquids. H. A. Humphrey. 18,594. August 16.
Raising or Forcing Liquids. H. A. Humphrey and W. J. Rusdell. 18,595. August 16.
Separation of Nitro-Glycerine from Acids. R. Haddan. 18,597. Aug. 16.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Feed-water Heaters. Wilkinson. 13,367 and 13,367A.
Cooling and Washing Gases. Meyer and Hastert. 18,014.
Artificial Stone. Schwanenberg and Rinne. 19,038.
Explosives. Duttenhofer. 19,408.
Dyestuffs of the Triphenylmethane Series. Bloxam. 20,124.
Producing Reactions in a Gaseous Mass by the Electric Arc. Naaville, Guye, and Guye 21,338.
Barium Cyanide. Johnson. 22,039.
Treatment of Turpentine. Weizmann and Clayton Aniline Co. 23,875.
Production of Radio-active Crystals. Reitz. 24,222.
Derivatives of 3-oxy-(1)-thionaphthene. Johnson. 26,190.
Caoutchouc Substitute. Sauton. 27,616.

1907.

Electrically Reducing Oxide Ores, etc. Petersson. 5,655.
New Substantive Dyestuffs. Imray. 6,814.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Construction of Twin or Coupled Gas Producers. Mason's Gas Power Co., Alma Works, Levenshulme, Manchester, and T. Wright, 39, Cringle Road, Levenshulme, Manchester. British Patent, 16,218. July 18, 1906.

This invention refers to what are known as twin or coupled gas producers, that is, gas producers built integral with each other, with a dividing wall common to both, and of rectangular or circular construction in plan, or with the outer ends round and the sides (front and back) flat. The invention also refers to that construction of twin or coupled producers in which the steam and air for working the same are admitted and the space below the grate cleaned from the opposite ends of the combined structure.

With such an arrangement it has been impossible for two pairs of such producers to be placed closer together than the necessary space for pokering would allow, and with the pokering done at each end of the structure it has not been practicable for more than two producers to be built integral with each other. Another objection has been that, with the producers flat or straight-sided in plan, they have, under the expansion of the brickwork, tended to bulge outwards, back and front, and so much so that a considerable number of tie rods have been necessary in order to resist the bulging, as well as a very strong outer casing, thus adding greatly to the cost of making the producers.

The present invention has for its object first, to couple the producers in a way which permits of two or more pairs of such producers integrally built being placed and used in less compass than the old construction; secondly, to couple the producers in a way which permits of any number being coupled to each other in a row in a minimum of floor space, whilst allowing the air and steam to be admitted at the ends of the grate and the space below the grate cleaned from each end, and also whilst allowing the water-sealed ash pit to lie at right angles to the longitudinal axis of the grate, and thirdly, so to construct the producers and their casings that they, of themselves, will resist any tendency to bulge outwards, and thus allow of the use of fewer tie rods, and the use of an outer casing of much less strength than previously necessary, with the consequent advantages of reducing both the initial cost of manufacture and the cost of upkeep. Two sheets of drawings show the construction.

Improvements in or Relating to the Extraction of Tin from Ore. R. W. E. Macivor, Glengall Road, Millwall, London, E., and M. Fradd, Finsbury House, Blomfield Street, London, E.C. British Patent, 17,002. July 27, 1906.

In the inventor's previous application No. 10,943, 1905, was described a process for extracting tin from its ores by the reducing action of producer gas or water gas, and the present invention is an improvement upon that process.

Hitherto it has been proposed to reduce tin ores by means of a jet consisting of air and either oil or gas. According to this invention reduction is carried out by means of the partial combustion of water or producer gas.

In the previous application the furnace, conveniently a cylinder, in which the reduction takes place, was heated externally to the necessary temperature. According to this invention, instead of externally heating the cylinder, the charge in the cylinder is heated internally by partial combustion of the reducing gas.

In carrying out this invention the finely divided ore is introduced as before into a furnace provided with any suitable means for agitating the contents during the process of reduction. The reducing gas, such as water-gas, is derived from any convenient form of producer, and is passed into a combustion chamber in proximity to the cylinder or forming a part of it, and the combustion chamber is constructed and arranged in any manner which will permit of the introduction of the combustible gas and of air, and of the careful regulation of their proportions. The amount of air introduced is sufficient only for partial combustion of the reducing gas, and the hot mixed gases are then utilised in the cylinder or reducing chamber, both to heat the ore to the desired temperature and to effect the reduction of the tin to metallic form. The temperature thus produced may conveniently be 600° C. or more, but sufficient hydrogen or other reducing agent is still left in the unconsumed gas for the purpose of carrying out the reducing process.

Improved Manufacture of Cement for Building and like Purposes. P. Timoffeeff, 23, Morskaya, St. Petersburg, Russia. British Patent, 17,006. July 27, 1906.

This invention relates to the manufacture of a fire-proof building cement consisting of sulphate of lime, siliceous mortar, and dextrin or casein, the two last constituents each amounting to 2—10% of the mass, the rest of which is sulphate of lime. Carbonate of lime may be mixed in certain proportions with the sulphate of lime, and the mixture calcined at a temperature about or below 150° C. and ground to fine powder before being mixed with the other constituents. When sulphate of lime, either from natural sources or artificially made, is used without carbonate of lime, it is calcined in a furnace or heated in a boiler until it is dehydrated (at about 130° C.), and finely ground. To impart hydraulic quality to the cement, in either case, tufa, consisting of silicates of alumina, substances obtained by heating siliceous alumina, puzzolanas, trasses or the like, materials obtained by calcining clays, or blast furnace furnace slags, may be added. When the cement is to be fire-proof in high degree about a suitable proportion, such as 2—10%, of calcium fluoride may be added. To retard shrinkage some kind of flour may be added to the cement, and when a coloured cement is required some suitable colouring matter may be mixed with the other materials. The proportions in which the ingredients are to be mixed in order to make the cement vary with the object for

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which the latter is intended. For a very strong cement, for instance, 24 parts of anhydrous calcium sulphate and six parts of calcined clay may be mixed with 1 part of dextrine and 1 part of siliceous mortar.

Improvements in Effecting the Removal of Impurities from Hydrochloric Acid Gases. G. W. Johnson, 47, Lincoln's Inn Fields, London (communicated by Verein Chemischer Fabriken, Mannheim, Germany). British Patent, 16,910A. July 26, 1906.

Besides compounds of chlorine and arsenic, hydrochloric acid gases contain other compounds such as sulphuric acid, chlorine, nitrosyl compounds, and iron chloride, which are impurities. This invention consists in employing the treatment with oils as described in Specification No. 16,910 of 1906, as a means also for effecting the removal of the impurities from such gases, as it has been found that thereby not only arsenic, but also the greater part of the other impurities can be removed, so that gases are in this way obtained which are eminently suitable for the manufacture of industrially pure liquid hydrochloric acid, and also for the manufacture of chlorine by the Deacon process. The claim is:—The removal from hydrochloric acid gases of impurities other than arsenic by subjecting the said gases to treatment with oils as described in the Specification of the Application for Letters Patent No. 16,910 of A.D. 1906 as applied to the removal of arsenic.

Improved Process for the Extraction of Sulphur. M. Rohleder (Chemische Fabrik Phœnix, Rohleder and Co.), 2/3, Wallgasse, Danzig, Germany. British Patent, 23,967/1906. Date claimed under International Convention, November 15, 1905.

The process consists in bringing the solution containing the sulphur into contact in a finely divided condition with a warm liquid in which both the sulphur and its solvent (generally bisulphide of carbon) are insoluble. The bisulphide of carbon is speedily eliminated from the small portions. The sulphur separated out no longer retains bisulphide of carbon or the like, as in other processes. The process is therefore free from danger, and in particular prevents the ignitions which so easily occurred with the processes hitherto employed on emptying the vessels. Owing to the fact that the bisulphide of carbon was formerly directly driven out of the solutions, the sulphur left behind formed a large solid mass, which adhered firmly to the walls of the distillation vessel, from which it had to be forcibly removed. The division of the solution of the sulphur in bisulphide of carbon and the quantity of hot liquid which this liquid reaches, must be selected in such a manner that the bisulphide of carbon is speedily eliminated from the small separate portions so that no collection of considerable quantities of the solution takes place, and that the temperature may be kept such that the bisulphide of carbon quickly distils over.

Improvements in Rotary Kilns. W. C Shiner, Catasauqua, Lehigh Co., Pa., U.S.A. British Patent, 443. January 7, 1907.

The inventor claims:—In apparatus of the type set forth, the arrangement of a conveyor extending from the lower end of a supply chamber through the lower end of a separate settling chamber so that the whole quantity of dust deposited may be conveyed back to the rotary kiln.

A Super-alkalinated Dry Soap in Compressed Cakes, and the Method of Manufacturing the same. The Société Française "La Cremouline," 99, Rue de Picpus, Paris. British Patent, 2,519. January 7, 1907 (date claimed under International Convention).

This invention relates to a soap specially intended for washing linen and for degreasing, and to the process of manufacturing the same. The soap is a dry product which, though containing caustic salts, is made up in the form of compressed cakes.

The invention consists essentially in agglomerating a mixture of soap powder and caustic alkaline salts with the addition of a little glycerine or other polyatomic alcohol and some mineral spirit, by submitting the whole to compression.

Improvements in Ore Washers or Concentrators. E. A. Wall, 32/D F., Walker Block, Salt Lake City, Utah, U S.A. British Patent, 7,801. April 3, 1907.

This invention relates to an ore washer or concentrator, characterised by a reciprocating sluice or body, having a raised head end to give the proper head to the water and ore, an outlet for the waste material and water at the tail end above the bottom; a riffled outlet in the bottom of the sluice or body; a receptacle for the concentrate having means for discharging the concentrate and a pressure water supply; and means for imparting a sudden bump at the head end towards the tail to cause the concentrate to be fed towards the tail end.

Improvements in or Relating to the Extraction of Sulphur from Gangue or other Metal. A. J. Boult, 111/112, Hatton Garden, London (communicated by Dr. E. Gunther, 6, Markt, Eisleben, Germany, and R. Franke, 44, Zeissingstrasse, Eisleben, Germany) British Patent, 11,187. May 15, 1907.

The inventor observes that the extraction of sulphur from a mixture with gangue or other admixtures of any kind has hitherto offered many difficulties, owing to the fact that it was not always possible to separate the sulphur from the admixtures completely and in a convenient manner. The use of well-known sulphur extracting means is combined with more or less great drawbacks. Carbon sulphide is very volatile and explosive, tetrachloride of carbon is also volatile, and both substances have only a limited power of solution of sulphur, particularly tetrachloride of carbon, which, in the techincal meaning of the word, cannot be considered really as a solvent for sulphur. Petroleum with very high-boiling point has also been recommended for the extraction of sulphur, but has not been found suitable, as, in spite of all precautions, it was impossible to avoid ignition of the vapours, and further, there took place a gradual formation of resin, and its removal from the extracted sulphur offered difficulties.

It has been found that tetrachloride of acetylene, which can be easily and cheaply prepared by the process described in the German Patent No. 154,657, has, at a high temperature, a power of dissolving sulphur which is much greater than that of the substances before specified. While tetrachloride of acetylene at an ordinary temperature dissolves only about 1% of sulphur, in the neighbourhood of its boiling-point, 146° C., it can be mixed with molten sulphur in any proportion in the same manner as, for instance, alcohol and ether are mixed at an ordinary temperature. The extraction can be effected, for instance, in a Soxhlet apparatus or similar extraction apparatus. Or the sulphur-containing substance can be heated with tetrachloride of acetylene; the hot solution of sulphur is separated from the undissolved part, cooled; the sulphur precipitated is separated from the solution; and the solution, containing a small quantity of sulphur, is utilised for a new extraction. The last traces of tetrachloride of acetylene can be easily expelled by steam from the sulphur extracted.

Instead of using tetrachloride of acetylene alone, mixtures of tetrachloride of acetylene with other liquids, more particularly with those which in themselves also dissolve sulphur, more particularly hydrocarbons, can be used. This makes the process of extraction cheaper, without reducing the power of solution of the mixture below the technically applicable limit. For instance, a mixture of 100 grammes of tetrachloride of acetylene and 100 grammes of xylol dissolve at the boiling point 80 to 90 grammes of sulphur.

The property of tetrachloride of acetylene to dissolve sulphur can be used with special advantage for enriching gas purifying substances in their contents of cyanogen, which enriching is required for the chemical extraction of cyanogen compounds. This is effected in such manner that the gas purifying mass is regenerated every time it becomes inoperative, by exposing it to the oxidising action of the air, and by utilising it again after regeneration. This regeneration and further utilisation are continued until cyanide compounds have accumulated in such quantities that the treatment of the mass for obtaining cyanide compounds appear sufficient to repay extraction. This utilisation of tetrachloride of acetylene is based on the fact that a compound of sulphur and iron is formed in the gas purifying mass—which, as regards its chemical composition, chiefly comprises oxide of iron (Fe_2O_3) or hydroxide of iron ($Fe_2(OH)_6$)—by the action of the sulphuretted hydrogen of the gas to be purified, the said combination of sulphur and iron separating in the open air sulphur, and forming again oxide of iron or hydroxide of iron; the sulphur separated can be removed by means of tetrachloride of acetylene without the mass becoming unsuitable for further use as a gas-purifying mass.

Artificial Camphor Production in France.—It is reported that a company has recently been formed under the title of the Société Le Camphre, of 68, Boulevard de Strassbourg, Paris, for the purpose of manufacturing camphor by means of a special process. The company has received various patents, including those of MM. Dubose and Behal. Works have been acquired at Bonnieres. It is expected that production will be commenced in the course of a few months.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, August 28.
120,000	1	1	Bell's Asbestos ... ord	1 11/16 1 15/16
	Stock	100	Borax Consol 4½% deb. stock red	109 111
80,000	10	10	Do. ... pref.	11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ord.	23/9 24/-
1,50 ,000	1	1	Do. ... 5% c.p.	20/7½
35,000	10	10	British Dyewood ... ,,	4 4¼
600,000	1	1	British Oil & Cake Mills ord.	12,6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	44/-
10,000	10	10	Do. ... 6% c.p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5 9/16 5¼
82 678	10	10	Do. 7% pref	17¼ 17½
96,000	5	5	Bryant and May ... c.p.	12¼ 12⅜
40.000	10	10	Buxton Lime Firms ord.	6⅛ 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/3
450,000	1	1	Castner Kellner ... ,,	24,6 25/-
16,000	5	5	Clayton Aniline ... ,,	2¾ 3
12,000	5	5	Do. ... 6% c.p	3¼ 4
6,000	10	5	Cleveland Salt ... 6% m p.	2½ 3
20,000	10	10	Crosfield J, and Sons c.p	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord	28/9
5,000	10	10	Do. 6% c p.	12 5/16 12 6/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	93⅝
	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	2⅞ 3⅛
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	10½ 11
200,000	10	10	Lever Bros. ... 5% c.p.	11 11¼
400,000	10	10	Manchester Ship Canal ord.	21/9
400,000	10	10	Do. per 5% pref.	30/-
120,000	1	1	Mandleberg ... ord	30/9 31/-
185,145	1	1	Mason and Barry ... ,,	59/4½
110,007	10	10	Nitrate Railways ... ,,	13
228,540	10	10	Nobel Dynamite Trust ,,	15⅜
	10	10	Do. share warrants	15⅜
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/6
	1		Pears, A. and F. ... ,,	29/3
70,000	10	10	Pease and Partners ... ,,	13⅜ 13⅝
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12¾
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	75½
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	2/9 3/3
200,000	4	4	Salt Union ... ... ,,	16/10½
100,000	6	6	Do. ... 7% n.c.p.	84/6
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1 1¼
	1	1	Schibaieff Petroleum ,,	¼ ½
£6,250,000	Stock	100	South Metropolitan Gas ,,	119
45,000	10	10	Steiner, F. and Co. 5% c p.	9 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6½
289,343	10	10	United Alkali ... ord.	80/6
282.524	10	10	Do. ... 7% pref.	11¾
80,000	1	1	United Indigo & Chemical ord	2/3
66,665	5	5	Willans and Robinson ,,	¼ ⅜
210,000	1	1	Woolcombers ... 7% c.p.	20/- 20/6
112,202	4	4	Young's Paraffin ... ord.	76/-

SULPHUR.—The negotiations between the Italian (Sicily) and American producers having fallen through, the former are now threatened with direct competition by the Union Company of Louisiana, whose first consignments to Europe are expected next month. It looks like war to the knife.

SUGAR CONVENTION.—The additional Act of the Sugar Convention was signed on Wednesday last at Brussels. In virtue of this arrangement the International Union has been extended for a fresh period of five years to date from September 1, 1908. From that date Great Britain will be relieved of the, obligation of penalising bounty-fed sugars, but the other contracting States will have the right to demand that sugar brought to Great Britain and exported to their territories shall be acccompanied by a certificate stating that no portion of it has come from a country which gives bounties for the production or exportation of sugar.

Trade Notes.

ADVANCE IN THE PRICE OF COAL.—The price of coal was considered at a meeting of Lancashire colliery proprietors, held at Manchester on Tuesday last, and it was decided that on and after September 1st the price of house coal should be raised by 1s. 8d. per ton, and the price of engine coal by 10d. per ton.

SALT IMPORTS INTO HOLLAND.—The Board of Trade are in receipt, through the Foreign Office, of a translation of a Dutch Royal Decree, dated 17th July, 1907, which provides for the exemption from excise duty of salt required in the preparation of freezing mixtures in factories and workshops.

UNITED INDIGO AND CHEMICAL CO.—The balance sheet of the above-named company showed a profit of £5,022., and the directors, at the annual meeting on Thursday, at Manchester, recommended that, after the payment of a dividend on the preference shares in respect of the six months ended June 30 last, a balance of £1,602. should be carried forward. The Chairman, Mr. C. J. Whittaker, said the profits last year amounted to £7,300. This year they totalled £5,000. This decrease was partly due to the writing-off of Consols, and the opening of a branch. The company's prospects were better than last year.—Mr. Isherwood, Huddersfield, said he was surprised to find the profits had decreased in a year which had been a most prosperous one. Dissatisfaction was also expressed by other shareholders, and the Chairman said that although the profits were low, the management had done a great deal of work. Continuing, Mr. Whittaker said he would much prefer not to be chairman of the company, but he wanted to stand by it. For every thousand of pounds of indigo and indigo products sold per week previously, they only sold one hundred now, but that did not mean that they had lost a large proportion of their trade. They still had a larger proportion of the trade than they had previously. They were working a dyeing trade now, and business was very satisfactory. It was unfortunate that the indigo trade went so quickly.—The report was adopted, and the question of the election of more directors was left for a subsequent meeting.

NEW AGRICULTURAL METHODS IN ITALY.—In reporting upon the trade of the Province of Lille, Mr. Consul Cocoto states that marked success has attended the efforts of the local Consorzio to persuade local landowners, and also country labourers employed by them, to entertain and adopt modern ideas as to the cultivation and protection of the vine. The Government is also endeavouring to persuade landowners and farmers to abandon the old systems of husbandry, and to this end travelling professorships of agriculture have been instituted in this and other agricultural districts. That in Brindisi is under the direction of Professor D'Ambrosio, who has already succeeded in effecting the introduction of rational improvements. The professor publishes a fortnightly pamphlet, in which he draws attention to the agricultural incidents of the moment, practically advising thereon. He visits estates and farms in order that he may impart on the spot such technical and theoretical ideas as to modern systems of agriculture and the results to be obtained therefrom as may be opportune. He lectures alike to the proprietor and to the worker in villages and country centres with good results, and, in view of the fact that the greater part of the soldiery is drawn from the agricultural population, he visits the barracks to talk to the men, in the hope that on their return to their homes they will preserve some of the ideas he has attempted to disseminate amongst them. He further explains the advantages to be obtained by the use of mechanical instruments of agriculture in the place of the simple plough and harrow (of almost primeval form), which have hitherto been in use. His advice under this head has been favourably listened to, and each year agricultural implements of all descriptions are being increasingly used. He is at all times prepared to advise on agricultural subjects; and also to analyse chemically soils with a view to proposing the proper manure or other treatment required. He arranges and cultivates model fields for particular branches of agriculture, to demonstrate the benefits to be obtained thereby. He is now doing his utmost to introduce the principle of co-operation in the interest of oil and wine producers, fruit growing, cheese making, bee keeping, silkworm egg rearing, and all the numerous subsidiary branches of agriculture. The advice and assistance of the professor being entirely gratuitous, increasingly favourable results are anticipated, as owners and labourers understand and realise the value of the counsel given them, and conclude that it is to their personal advantage to follow it.

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NEW YORK PRICES CURRENT.

August 13, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8¼
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¼
„ „ „ Continental	„	0 7
Ammonia, Carbonate, lump	„	0 7⅝
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	„	0 8¾
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

Cape Profit Tax.—The Cape House of Assembly has passed a measure imposing a profit tax of 10% on diamond and copper mining companies earning over £50,000 per annum.

Anglo-American Oilfields Co.—Mr. J. S. Bergheim, presiding at the statutory meeting of this company, on Thursday last, said that all the machinery had been ordered since they were constituted two months ago, and had arrived at the ports. When they would start drilling he could not say definitely, but it was hoped to commence by December 1. Nothing had transpired since they took over the property to weaken their faith in it as an oil venture.

The Census of Production.—The first meeting of the Special Advisory Committee for the Coal Mining Industry was held on the 15th inst., at the Board of Trade. There were present Mr. A. Wilson Fox, C.B. (in the chair), Mr. F. J. Jones, Mr. R. Baird, Mr. W. S. Barrett, Mr. G. J. Binns, Mr. Gascoigne Dalziel, Mr. R. Guthrie, and Mr. T. Ratcliffe Ellis representing the Mining Association of Great Britain; Mr. Malcolm Delevigne and Mr. W. A. Atkinson representing the Home Office; Prof. S. J. Chapman, Mr. G. J. Stanley, C.M.G., and Mr. H. W. Macrosty.

The Revenue.—Up to the end of last week the receipts into the national exchequer were £50,033,017 for this financial year, or £1,500,000 more than in the corresponding period of last year. The increase in the revenue is mainly in estate duties, excise, and the income tax, but there are smaller gains from the postal and telegraphic services. Indeed, all the chief items of revenue show increases, except the customs. The payments out of the exchequer are, so far, this year, £600,000 below those for the corresponding period.

Fire at a Dye-Works.—On Tuesday last a serious fire occurred at the dyeing works of the Calico Printers' Association, situated at Barrow, between Clitheroe and Whalley. The finishing rooms were saved, the rooms containing a large quantity of stored block work. With the loss of machinery the damage is estimated at not less than £12,000 to £15,000, which is mainly covered by insurance.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, August 13th, 1907.

(Rate of Exchange, $4.86¾ = £1.)

Nitrate of soda is in pretty good demand with prices remaining unchanged at $2.50. per 100 lbs. Sulphate of ammonia has not improved in the local market, but prices are well maintained at $3.05. to $3.07½. per 100 lbs. Grey muriate for galvanising is selling at 5¾c. to 6¼c. per lb., as to make. White electrical is in free supply and selling rather freely at 5¾c. per lb. Lump sal ammoniac is steady at 9¼c. per lb. Lump carbonate of ammonia is moving slowly at 7⅝c. to 7⅞c. per lb. Bleaching powders are not in very great demand, and are quoted at $1.30. per 100 lbs. Alkali and caustic soda remains as previously quoted. Sulphate of copper is weak; the Syndicate price is 7c., but this can be shaded in large quantities. White powdered arsenic is dull, but prices are well maintained; prompt deliveries are selling at 7c. per lb., while futures have been offered at 6¾c. to 7c. per lb. Red Saxony arsenic remains unchanged at price last quoted. Calcined potash, 80-85%, is reported at 3¼c. to 3⅜c. per lb., and hydrated 4¾c. per lb. Caustic potash (75%) has improved, but is quoted at same price. Chlorate of potash and soda are well maintained at prices last quoted. Bichromate of potash is still selling at 8¾c., and soda at 7⅛c. per lb. Prussiate of soda remains unchanged at 9½c. per lb. Prussiate of potash continues dull, and is quoted at 16c. per lb. Oxalic acid is selling steadily at 8¼c. per lb., while futures are quoted at 8c. per lb.

THE LONDON METAL MARKETS.

Thursday.

Copper: Standard brands, £79. 5s. to £79. 10s. cash, and £77. 15s. to £78. three months. Tin: G.M. quality, £169. 10s. to £170. cash, and £169. 7s. 6d. to £169 17s. 6d. three months; English, £173. Lead: soft foreign, prompt, £19. 10s.; August shipment, £19. 5s.; November, £18. 15s.; English, £19. 15s. Spelter: Ordinary brands, £21. 17s. 6d.; ex ship hard, £18. 10s., f.o.b. Antimony, £36. to £38.; ore, £8. 10s. to £9. 10s. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6 16s. Nickel, £175. to £185. Aluminium, £158. to £162. Wolfram, 45s. to 50s. Pig-iron closing prices: Cleveland 56s. 11d. cash, and 56s. 11½d. one month.

FERTILISER MATERIALS.

Friday.

Quietness still prevails in all departments for manure material, but prices are fairly well maintained.

No fresh development has taken place in mineral phosphates. Raisers of all grades, being well sold ahead, still maintain a firm attitude.

£4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, would be accepted for East Indian bone meal for shipment, but there is little demand for this material at present. On spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is asked.

Nitrate of soda still keeps a quiet market, but quotations remain steady at 11s. 1½d. per cwt. for ordinary, and 11s. 4½d. per cwt. for refined quality, on spot.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols: Values are given at 8¾d. to 9d. for 90's, and 9d. for 50-90's. Crude tar, 15s. 6d. to 20s. per ton, Thames; 1¼d. to 1⅜d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 26s. to 26s. 6d., f.o.b.; Gas Company, 29s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. to 24s. 6d., forward 2s. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10½d. to 11d.; pure, 1s. 6d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8d.; 75%, 1s. 11¾d. to 2s.;

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crystals, 39-40, 5¾d.; 34-35, 5¼d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45% A, 1½d. to 1⅝d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia firm. Nearest values are:— Beckton, £12.; Beckton terms, £11. 11s. 3d. to £11. 12s. 0d.; London, £11. 15s. to £11. 10s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined 11s. 9d.; Liverpool, ordinary, 11s., refined 11s. 1½d. Official quotations:—Cargoes off coast or due, 11s. 1½d.; ditto for prompt shipment, 11s. 6d.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

Business generally in the principal products of the alkali trade is somewhat quiet, and values are unaltered. Bleaching powder is still offered on basis of £4. rails for 1908 contracts, and for prompt £4. 7s. 6d. softwoods f.o.r. Ammonia alkali, soda crystals, and bicarbonate are without change. Caustic soda, 70%, £9. 15s.; 74% £10. 5s. f.o.b. There is some small inquiry for the latter over next year, but prices have not yet been settled. Chlorates are quiet at 3½d. per lb. Sulphate of copper continues weak at £26. 10s. to £27. f.o.b. for prompt and early shipment. Spring delivery is quoted £26. f.o.b. Saltcake steady at 40s. f.o.r. Recovered rock sulphur, bags, £4. 10s. to £4. 11s. 3d. f.o.r. Caustic and carbonate of potash are still in short supply, and prices are firmly maintained. Prussiates a shade weaker for near delivery. Potash at 5⅝d. and soda 3½d. per lb. Bichromates quiet at 3½d. and 3d. for potash and soda respectively. Lead salts are in better request, and quotations rule steady. Foreign white, £32. 10s. c.i.f.; brown, £26. 5s.; nitrate, £34. to £34. 10s. per ton. There is a fairly good demand for white powdered arsenic, both for home and export, and prices are firm at £31. to £31. 10s. Garston-American brown acetate of lime easy at £8. 7s. 6d. c.i.f.; grey, £12. 10s. per ton. Acetate of soda, £17. to £17. 5s. c.i.f. Oxalic acid is now offering for 1908 delivery at 3¼d., and some business has been done round and about this figure.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes in limited supply at 35s. 6d. to 36s. per cwt. Pearl ash nominal. Cutch steady. Gum arabic quiet. Gum copal: a small lot of Sierra Leone sold at auction at 9d. per lb. Logwood and fustic quiet. Castor oil steady at 3 11/16d. for first pressure French; 3½d. for second pressure French; 3⅜d. to 3 7/16d. for good seconds Calcutta; and 3 11/16d. for August-September, September-October shipment of the latter. Gambier: Block, 18s. 7½d. to 19s.; 18s. for June-July; 18s. 1½d. for July-August; and 18s. for August-September shipments. Cubes, 28s. 6d. to 29s.; and 27s. 9d. for August-September and September-October shipments. Shellac steady at 192s. 6d. to 195s. for T.N. orange on spot. American powdered starch, 10s. 3d. on spot, and 9s. 9d. c.i.f., for shipment; pearl, 9s 9d. on spot, and 9s. 3d. c.i.f., for shipment. Glucose: American liquid, 43°, 11s. on spot, and 8s. 9d. c.i.f. for shipment. Cream of tartar: 98%, foreign powder, 81s.; 95%, 79s. Tartaric acid: English, 11¼d. to 11⅜d. on spot; foreign, 11d. Citric acid: English, 1s. 10½d.; foreign, 1s. 10¼d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil steady, sales including Benin, £27. 6s. to £27. 10s. on spot, and £27. 15s. for October-November shipment; Lagos, £29. 5s. on spot. Cottonseed oil steadily held at 30s. 9d. to 31s. 3d. for Liverpool refined in export barrels. Linseed oil firm at 24s. 3d. to 25s. for Liverpool makes in export casks. Tallow firm at 32s. to 34s. for Norths; 34s. 7½d. to 34s. 6d. c.i.f. for South American mutton; and 34s. 3d. c.i.f., for South American beef. Rosin steadily held. Turpentine quiet, at 41s. 9d. per cwt. on spot. Petroleum steady at 6½d. for Russian and Roumanian and 7d. to 8d. for American refined oils. Petroleum spirit in fair demand, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OILS.—Seed oils have been improving in value all the week. In the case of cotton oil this may be attributable to the small imports of seed, but linseed oil may have been influenced by the improved demand for seed, which is selling in London at increased prices. Imports during the year at all ports have been heavy, and crops generally are good; therefore it is difficult to understand, unless it is spasmodic and firmly held. Among the principal imports here to date, as against the same a year ago, are:—Wheat, 2,714,855 qrs., against 2,503,865 qrs.; flour, 142,262 cwts., against 247,163 cwts.; linseed, 513,492 qrs., against 346,354 qrs.; rapeseed, 61,509 qrs., against 51,828 qrs.; cottonseed, Egyptian, 126,413 tons, against 109,939 tons; other kinds, 125,172 tons, against 100,037 tons; oilcake, 17,866 tons, against 28,287 tons; hemp, 89,479 cwts., against 114,303 cwts.; olive oil, 3,484 tuns, against 2,934 tuns. Amongst the weekly imports are:—Margarine, 2,902 cwts.; lard, 4,158 cwts.; sugar, 23,515 cwts.; glucose, 2,261 cwts.; hides, 3,206 cwts.; oilcake, 360 tons; colours, 2,677 packages; wool, 14,436 lb. Exports:—Oil, 9,714 cwts.; colours, 1,936 packages; chemicals, 2,169 packages; linseed oil, strong, from 10s. to 15s. per ton higher, spot naked, 22s.; September-December, 21s. 9d.; January-April, 20s. 9d.; boiled and refined, £1 to £1. 10s. per ton extra. Exports for the week:—1 ton China, 3 Denmark, 7 Germany, 30 India, 7 Norway, total 48 tons. Linseed: La Plata spot, 41s. 6d.; August-September, 42s. 3d.; September-October, 500 tons sold at 42s. 3d., and 1,000 tons sold at 42s. 6d.; December-January, 41s. 6d.; January-February, 41s. Refined cotton oil, strong, at 7s. 6d. to 10s.; advance spot, 28s.; August, 28s.; September-October, 27s. paid; November-April, 24s. paid; casks £1, and barrels £1 7s. 6d. per ton extra. Exports for the week:—6 tons France, 28 Germany, 45 Holland, 1 Norway, total 80 tons. Cottonseed dearer; spot, £8. 7s. 6d. paid; to arrive £8. 6s. 3d. paid; August, £8. 5s.; September-November, sold at £8., closing £8. 2s. 6d. buyers; Bombay, September-October, sold £5 15s. Turpentine, quiet, 41s. 6d.; September-December, 42s. 9d.; January-April, 44s. Rosins unchanged. Castor oil, November-December, £30. 15s. Russian business done at 20s. 6d.

OILCAKES.—Generally a firm market, and fair demand; 95% pure linseed, £7. 5s. to £7. 7s. 6d.; Canadian, £7. 10s.; oilcakes, £6. 5s.; cotton cakes, best, £5.; Bombay, £4.; both firm,

TYNE CHEMICAL REPORT.

THURSDAY.

Chemicals continue in steady demand. Soda crystals in good request locally at £2. 17s. 6d. to £3. 2s. 6d. per ton, gross weights. Bleaching powder steady at £5. to £5. 5s. per ton. Caustic soda, 70%, £9. 15s.; and 76-77%, £10. 10s. per ton. Sulphur firm at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—The general tone of the coal market remains firm, and for good gas and steam coals was, if anything, stronger.

For current shipment quotations are as under:—Best Northumbrian steam, 16s. to 16s. 6d. per ton; second qualities, 15s. to 15s. 6d. per ton; small steam, 10s. 6d. to 11s. per ton; best gas coals, 15s. 6d. per ton; second qualities, 14s. 6d. per ton; Durham bunker coals, 14s. 3d. to 15s. per ton; coking coals, 14s. 6d. per ton; household coals, 16s. to 17s. 6d. per ton; gas coke, 20s. per ton; foundry coke, 25s. per ton.

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WEST OF SCOTLAND CHEMICALS.

GLASGOW, Thursday.

There is little or no change in the ordinary heavy chemicals. A fair current of spot business is passing at the recent figures, with an increasing inquiry respecting forward supplies. Sulphate of copper has had a further fall. Sulphate of ammonia, prompt f.o.b., Leith, holds at about the mark of a week ago, with moderate business reported. Forward dealing is again nominal for the time, the last being £12. 2s. 6d. Leith, f.o.b. Creosote oil is still a firm market. In the mineral oil and paraffin section the activity of movement is retained; season's burning oil contracting is still going on, and the makers will soon be about fully booked up to estimated forward production. In the mineral lubricants 865° gravity has become scarce, and its tendency is upwards. The soid paraffin and paraffin spirit are all very steady and firm of price.

Chief prices current are :—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal tar and blast-furnace), 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¼d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s. to 41s. 3d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £26. 15s., less 5% Liverpool, prompt.

New Companies.

Central Acid Co., Ltd.—Capital £35,000., in £1. shares. This company has been formed to adopt an agreement with the Central Zinc Co., Ltd., and to carry on the business of sulphuric acid makers, manufacturing chemists, importers and manufacturers of and dealers in chemical, industrial and other articles, acids and compounds, etc. No initial public issue. The first directors are H. Ellison, F. Holroyd, H. W. Robinson and H. M. Ridge. During the continuance of the above mentioned agreement the Central Zinc Co., Ltd., may appoint one director when only three constitute the board; or two when such number is exceeded; qualification (except nominees of the said company) 500 shares.

Longwith By-Product Co., Ltd.—Capital £41,000., in £100. shares (400 participating preference). This company has been formed to adopt agreements (1) with the Sheepbridge Coal and Iron Co., Ltd., and (2) with the Power Gas Corporation, Ltd., to acquire land and erect thereon gas producer plant, by-products, recovery and chemical works, and to carry on the business of colliery owners, manufacturers of and dealers in gas, coke, fuel, bricks, tiles, pipes, pottery, terra-cotta, coal tar and other products (including by-products produced in the manufacture of gas or coke), etc. No initial public issue. So long as the Power Gas Corporation, Limited, and the Sheepbridge Coal and Iron Co., Limited, hold shares in this company they may each nominate two directors. No qualification necessary; remuneration £400. per annum, divided.

Matang (Perak) Rubber Syndicate Ltd.—Capital £12,500., in £1. shares. This company has been formed to adopt an agreement with F. McGillivray for the acquisition of two grants of land (adjoining) at Sungei Limau and Simpang, in the Matang District of the State of Perak, to clear and plant the same, or 500 acres thereof, with Para rubber or other product. Minimum cash subscription £6,000. The first directors are F. McGillivray, E. Cattanach, A. Russan and T. J. Ive; remuneration £150. per annum, divided.

Plaissetty Manufacturing Co., Ltd.—Capital £75,000., in £1. shares. This company has been formed to acquire from T. Terrell and J. P. H. Soper inventions in respect of incandescent filaments and mantles and burners for use in connection with mantles or lighting and patents and rights relating thereto, together with the business and assets of the Plaissetty Manufacturing Co., at Lewisham, to adopt an agreement with the said T. Terrell and J. H. P. Soper, and to carry on the business of manufacturers of and dealers in mantles, threads, filaments, silks and other materials or apparatus for incandescent lighting, lamps, gas fittings, etc. No initial public issue. The first directors are T. Terrell, J. P. H. Soper, A. O. Cudleigh and C. F. Hill; qualification £500; remuneration 2 guineas each per meeting attended. Registered office, 20, Copthall-avenue, E.C.

Strady Galvanising Co., Ltd.—Capital £30,000., in £1. shares. This company has been formed to carry on the business of galvanised sheet manufacturers, tin and terne plate makers, spelter manufacturers, steel makers and converters, ironmasters and founders, etc. No initial public issue. The first directors are M. S. Williams, M. O. Spence and R. Howells; qualification £1,000.; remuneration of chairman £100. per annum, to be increased to £300. when 10% dividend is paid; of other directors one guinea each per board meeting attended. Registered office, Marine-street, Llanelly.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Ckn.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Clds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending August 17.

Acetic Acid—

Holland,	30 cks.	W. H. Muller & Co.
,,	25 brls.	,,
,,	26	Little & Johnston
,,	100 cbys.	,,
,,	10 cks.	R. W. Greeff
	18 pks.	& Co.
Germany,	34 cbys.	H. W. Brunnerstaedt & Co.

Albumen—

U.S.A.,	£30	Armour & Co.
Italy,	30	Felton & Crepin
France,	120	Leach & Co.

Alcohol (Methylic)—

Canada,	4,160 gals.	F. A. Tye
U.S.A.,	9,400	P. F. Knowlden

Aluminium—

France,	5 t.	Woollett & Adreyle

Aluminium Sulphate—

Holland,	£100	Ohlenschlager & Co.
,,	25	Luke & Bailey

Ammonium Muriate—

Holland,	£79	A. & M. Zimmermann

Amyl Acetate—

Germany,	10 cks.	R. W. Greeff & Co.

Antimony Ore—

N.S.W.,	1 t. 6 c.	P. W. Spence & Co.
P. E. Africa,	12	Vivian & Bond
Straits,	22	J. Henderson

Antimony (Regulus)—

France,	1 t.	A. C. Hitchcock

Asbestos—

Canada,	61 t. 10 c.	Deering & Robottom
P. E. Africa,	10 cks.	Van Dam & Co.

Barytes—

Germany,	22 cks.	W. Harrison
,,	400 bgs.	,,
,,	300	Luke & Bailey
,,	455	G. Francis
Belgium,	35 cks.	W. Harrison
Holland,	10	Van Dam & Co.
,,	44	Taylor Bros.
,,	100 bgs.	W. H. Muller & Co.
,,	500	Felton & Crepin
,,	113 cks.	,,

Bismuth Carbonate—

Germany,	£66	Argo S.S. Co.

Bleaching Powder—

France,	15 t.	R. Waters
Germany,	52	J. M. Steel & Co.

Bog Ore—

Holland,	9 c.	Shaw, Adams & Co.
,,	170 t.	W. Hawkins & Co.
Belgium,	355	W. H. Shepherd

Bromide Salt—

Germany,	£32	Craven & Co.

Calcium Carbide—

Norway,	4 t. 14 c.	J. Spurling
,,	50	Soc. Com. Carb.

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Caoutchouc—

France,	6 c.		Props. Bull .Wf
,,	9 t.	18	L. & I. D. Jt. Co.
,,	1		Kiver & Co.
,,	8	12	S. Figgis & Co.
,,	1	4	France, Fenwick & Co,
Holland,	3	10	L. & I. D. Jt. Co.
Straits,	2	2	
,,	2	14	,, Prop. Hay's Wf.
,,		17	Rowe, White & Co.
,,	1	13	Shand, Haldane & Co.
,,	1	5	Lewis & Peat
,,	1	11	M. & P. Evans & Co.
,,	5	17	S. Figgis & Co.
,,	1		Dickson & Co.
Ceylon,		8	Hoare, Wilson & Co.
U.S.A.,		7	S. Figgis & Co.
,,		10	Evans & Co.
,,		6	Prop. Hay's Wf.

Carbonic Acid Gas—

Holland, £829 W.H.Muller & Co.

Castor Oil—

France,	5 brls.	Baiss, Bros. & Co.
Italy,	20 cs.	Wright, Kerr & Co.
,,	10	Prop. Midd. Wf.
,,	10	Litchfield & Soundy
,,	5	,,
,,	5 brls.	,,
,,	10 cs.	Lennon, Ld.
Belgium,	28 cks.	Fuerst Bros

Caustic Potash—

Germany,	50 dms.	J. N. Steel & Co.
,,	40	Beresford & Co.
Belgium,	11	Luke & Bailey
,,	30	Petri Bros.

Chalk (French)—

France, £24 Cook & Co.

Chemicals (*otherwise undescribed*)

Germany,	£544	T. H. Lee
,,	427	A. & M. Zimmermann
,,	26	Prop. Hay's Wf.
,,	44	Leach & Co.
,,	152	Argo S.S. Co.
,,	35	N. & R. Collyer
,,	56	L. & I. D. Jt. Co.
France,	32	Mory & Co.
Belgium,	7	G. Boor & Co.
,,	20	C. Zimmermann
,,	33	J. Cockerill Line
,,	7	Wilkins, Campbell & Co.
,,	7	Leach & Co.
,,	9	United S. Co.
Holland,	127	W. H. Muller & Co.
,,	17	Van Dam & Co.
,,	115	R. W. Greeff & Co.
,,	20	R. Hermann
,,	20	J. M. Steel

Citrate of Lime—

Italy, £1,073 Thames S.T. & L. Co.

Citric Acid—

Germany, 20 cks. L. & I. D. Jt. Co.

Coal Products—

Aniline

Germany,	5 pks.	L. & I. D.
,,	2 cs.	Jt. Co.
Belgium,	1 ck.	J. Cockerill
,,	6 pks.	Line
Germany,	5 cks.	Leach & Co.
,,	2 cs.	,,
Belgium,	5 pks.	Friend & Co.

Pitch

Germany,	3 brls.	London & Rhine S. Office
N. Russia,	400	Fellows & Morton
Germany,	600	,,

Cobalt Ore—

N.S.W., 2 t. 8 c. Litchfield & Soundy

Copper Ore—

W. Aust.,	4 t.	G. Smith & Son
P. E. Africa,	99	Page, Son & East
Queensland,	10	Thompson & McKaye
,,	25	Hoare, Wilson & Co.

Cottonseed Oil—

Holland, 94 brls. W. H. Muller & Co.

Cream of Tartar—

France,	4 cks.	G. S. N. Co.
,,	44	W. C. Bacon& Co.
,,	4	B. & F. Wf. Co.
,,	20 kgs.	,,
Holland,	2 cks.	W. H. Smith
,,	8	J. Barber & Co.
,,	65	A. & M. Zimmermann

Dextrine—

Holland,	5 t.	J. Barber & Co.
Germany,	2	M. Dk. Co.
,,	9	6 c. J. Barber & Co

Dyestuffs—

Cochineal

Canary Is.,	48 bgs.	L. & I. D. Jt. Co.

Divi Divi

E. Indies,	26 bgs.	Culverwell, Brooks & Co.
,,	58	Flack, Chandler & Co.
,,	388	H. J. Perlbach & Co.

Dyewood Extract

U.S.A.,	40 bxs.	L. & I. D.
	1 brl.	Jt. Co.

Extracts (*otherwise undescribed*)

Germany,	2 cs.	Leach & Co.

Gambier

Belgium,	10 cs.	Leach & Co.
Straits,	162 bgs.	Beresford & Co.
	251 bls.	W.T. Sargant & Son

Indigo

E. Indies	2 chts.	Arbuthnot Latham & Co.

Myrabolans

E. Indies,	957 pkts.	L. & I. D. Jt. Co.
,,	310 bgs.	Sollas & Son
,,	927	Hoare Wilson & Co.
,,	308	Percival, Ellis & Co.
,,	1,463	France, Fenwick & Co.
,,	10,527	Mercantile Ltge. Co.
,,	238 bgs.	J. W. Cook & Co.

Sumac

Italy,	600 bgs.	L. & I. D. Jt. Co.
,,	100	H. Johnson & Sons
,,	50	J. Graves
France,	9 cks.	Bevington & Son

Tanners' Bark

Belgium,	16 t.	Leach & Co.
Natal,	5	A. Brooksbank & Son
,,	50	E. J. Winser & Co.
,,	180	J. T. Rennie & Co.

Tannin Extract

France,	65 cks.	F. Claydon & Co.

Turmeric

E. Indies,	3 pks.	P. & O. S. N. Co.
,,	70 bgs.	Dalton & Young

Vanilla

France,	1 cs.	Lewis & Peat

Farina—

Holland,	10 t.	Burgoyne & Co.
Germany,	1	Bennett's Haulage Co.

Formaldehyde—

Germany, £35 Reitmeyer & Son

Gas Oil—

U.S.A.	604,050 gals.	Anglo-Am. Oil Co.
Roumania,	80	H. Finkler & Co.

Gelatine—

Holland,	£54	T. H. Lee
,,	47	Robinson, Roberts & Co.
,,	17	W.H.Muller & Co.
,,	28	Van Dam & Co.
,,	23	J. Cockerill Line

Gelatine—

Germany,	£232	L. & I. D. Jt. Co.
Belgium,	83	J. Cockerill Line
,,	28	Atkins & Nisbet
France,	58	Mory & Co.

Glucose—

U.S.A.,	277 t.	14 c.
Germany,	10	3

Glue—

Holland,	£8	H. Johnson, Sons & Co.
,,	12	T. H. Lee
Germany,	230	H. Keller & Co.
,,	602	L. & I. D. Jt. Co.
Holland,	63	Hernu, Peron & Co.
,,	30	W. H. Muller & Co.
,,	129	Van Dam & Co.
Belgium,	360	Major & Field
	150	Leach & Co.
N. Russia,	210	Ihlea & Sankey
Aust. Hung.,	150	P. Leinet & Son
France,	15	D. C. Thomas & Son
,,	29	Mory & Co.
,,	25	L. & I. D. Jt. Co.
,,	670	Craven & Co.
Belgium,	172	T. M. Duche & Sons
Holland,	30	O. Lechla.
,,	14	W. H. Muller & Co.

Glue Stock—

Japan,	1 t.	6 c. Thompson, Fraser & Ramsey
Belgium,	10	D. C.Thomas & Son
Tasmania,	25	13 Lowe & Harley

Gutta Percha—

Straits, 2 t. 19 c. Huttenbach & Co.

Glycerine—

Germany,	£203	J. Barber & Co.
Holland,	38	W. H. Muller & Co.

Glycero Phosphate—

France, £40 Mory & Co.

Iron Chloride—

Holland	£39	Van Dam & Co.
,,	60	Hernu Peron & Co.

Linseed Oil—

Belgium,	18 dms.	N. Dixson
Holland,	18 brls.	Goodlake & Nutter
Canada,	4 dms.	J. & E. Ayerst

Lithopone—

Belgium,	6 cks.	Felton & Crepin
,,	26	J. F. Lauderdale
Holland,	4	W. Ostermann & Co.

Magnesia—

Germany, £160 L. & I. D. Jt. Co.

Magnesite—

Germany, £64 Argo S.S. Co.

Manganese Ore—

Germany, 1 t. Argo S.S. Co.

Mineral White—

France, £91 Blackwell, Sons & Co.

Molasses—

236 t. 6 c.

Olive Oil—

France,	145 gals.	Major & Field
Italy,	4 tuns	Fuerst Bros.
,,	3	Stebbing & Co.
France,	6	Carter, Paterson & Co.
,,	110	Mory & Co.
,,	60	Atkins & Nisbet
,,	2 126	A. & N. Co-op. Soc.
,,	1 63	L. & N.W. Rly.
,,	126	Litchfield & Soundy
,,	82	Dakin& Co.
Italy,	200	Nicholson's Wvs.
France,	19	Schenker & Co.

Oxalic Acid—

Holland,	5 cks.	T. H. Lee
Norway,	10	W. H. Smith

Paraffin Scale—

U.S.A.,	26 t.	1 c.	H. Hill & Sons
,,	80	16	Campbell & Co.
,,	223	8	Anglo-Am. Oil Co.

Paraffin Wax—

Germany, 2 t. T. F. Lee

Phosphate of Lime—

Belgium,	185 t.	Lawes Chem. Co.
France,	127	Hunter, Lomer, & Fraser

Plumbago—

Ceylon,	100 cks.	Reckitt & Son
,,	130 brls.	G. R. Haller
Germany,	8	Craven & Co.
E. Indies,	126 cks.	Marshall & French
,,	5	R. G. Hall & Co.
,,	5 bgs.	,,
,,	173 brls.	Thredder, Son & Co.
Ceylon,	254	,,
,,	280	,,

Potassium Carbonate—

Canada, 8 brls. Charles & Fox

Potassium Chlorate—

France,	9 cks.	R. Bell & Co.
Sweden,	12 cs.	G. Boor & Co.

Potassium Iodide—

Japan,	£112	C. H. Bryant
France,	150	L. & I. D. Jt. Co.

Potassium Oxalate—

Holland,	£40	W. H. Smith
,,	50	J. Copper

Potassium Permanganate—

Germany, 40 kgs. R. W. Greeff & Co.

Potassium Prussiate—

France, 18 cks. J. Owen

Pyrites (Copper)—

Spain, 182 t. C. Tennant, Sons & Co.

Pyrogallic Acid—

Holland, 2 cs. W. H. Muller & Co.

Red Lead—

Germany,	34 cks.	Randall Bros.
Holland,	10	J. Owen
,,	84	F. T. H. Nye
,,	93	Randall Bros.

Ripolin—

Holland,	73 pks.	Phillipps
,,	35 cs.	& Graves

Rosin—

France,	100 brls.	Rosin & Turp. Impt. Co.
,,	50	Watt & Son

Salicylic Acid—

France, £73 Mory & Co.

Saltpetre—

Germany,	95 t.	15 c.	P. Hecker & Co.
,,	22	5	London & Rhine S. Office

Silver Nitrate—

W. Aust.,	£35	Stockwell & Co.
Germany,	240	T. H. Lee

Silver Ore—

U.S.A., 5 t. B. Ackerley & Son

Soap—

France,	£57	B. & F. Wf. Co.
,,	195	Pronk, Davis & Co.
,,	60	Mory & Co.
,,	20	Litchfield & Soundy
,,	23	L. & I. D. Jt. Co.
Germany,	10	,,
Belgium,	18	B. & F. Wf. Co.
,,	16	J. Cockerill Line
,,	56	Thomas & Son
,,	20	H. Chesidow
Holland,	22	Hernu, Peron & Co.
,,	51	W. H. Muller & Co.
U.S.A.,	510	Lunham & Moore
,,	400	American Ex. Co.
,,	60	Field & Co.

Soap Powder—

U.S.A.,	£171	Butler's Wf.
Germany,	611	London & Rhine S. Office

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Soda—
Germany, 6 c. A. & M. Zimmermann
,, 43 t. 8 London & Rhine S. Office
Holland, 45 Typke & King
Germany, 3 cks. C. Lockwood
,, 7 cs. A. & M. Zimmermann
Holland, 1 t. 2 T. H. Lee
,, 11 J. M. Steel & Son

Soda Crystals—
Ghent, 200 bgs.
Antwerp, 229
Holland, 10 t. Windmuller & Co.

Sodium Acetate—
France, 10 t. J. Harrison

Sodium Silicate—
Belgium, £11 Harrison & Co.

Sodium Sulphate—
Holland, 2 t. Atkins & Nisbet
Germany, 52 J. B. Jeffery
Belgium, 2 J. Harrison

Starch—
Sweden, 4 c. Phillipps & Graves
Holland, 8 t. 18 Starck & Co.
,, 2 10 J. Barber & Co.
,, 2 Kay & Mayo
,, 46 Little & Johnson
,, 46 11 W.H.Muller & Co.
France, 5 A. C. Hitchcock
,, 5 C. E. Wood
U.S.A., 38 5 W. Grose & Co.
,, 25 Bennett's Hge. Co.
Belgium, 5 5 J. Harrison
,, 18 Leach & Co.
,, 2 10 C. E. Wood
,, 8 Fellows, Morton & Co.
,, 1 10 G.W.Sheldon & Co.
,, 1 Page, Son & East
,, 1 Burgoyne & Co.
Holland, 11 Pickfords, Ld.

Sulphur—
Belgium, 1 t. 11 c. Vokins & Co.
Italy, 4 9 Fuerst Bros.

Sulphur Chloride—
Holland, £41 T. H. Lee

Tallow—
Belgium 63 bgs J. M. Baker
Queensland, 13 cks. H. Kent
,, 122 France, Fenwick & Co.
,, 30 C. L. Annoot
,, 34 J. Greig
,, 120 Phillipps & Graves
,, 96 Mordaunt Bros.
,, 100 Goad, Rigg & Co.
N.S.W., 121 Thornett & Fehr
,, 63 France, Fenwick & Co.
,, 52 Concordia Wf.
,, 110 Henderson, Craig & Co.
,, 15 L. & I. D. Jt. Co.
Queensland, 100 cks. Anning & Cobb
,, 11 C. L. Annoot
,, 48 Bessler, Waechter & Co.
N. Zealand, 219 L. & I. D. Jt. Co.
,, 60 Leach & Co.
U.S.A., 134 Leyland Line
,, 70 Lane & Co.
Arg. Rep., 141 France, Fenwick & Co.
,, 490 Bessler, Waechter & Co.

Tartaric Acid—
France, 12 cks. B. & F. Wf. Co.
Holland, 2 T. H. Lee
,, 6 F. C. Devon & Co.
Italy, 20 B. & F. Wf. Co.

Thermit—
Holland, £40 J. Barber & Co.

Thorium Nitrate—
Germany, £250 T. H. Lee

Tin Ashes—
N. Russia, 4 t. Schenker & Co.

Tin Ore—
U.S.A., 6 c. Hoare, Wilson & Co.
Portugal, 1 t.

Turpentine—
Germany, 12 cks. Jacob & Valentine
Aust. Hung. 7 cs. C. F. Gerhardt

Ultramarine—
Holland, 3 cs. A. G. Soutter & Co.
,, 26 cks. W. H. Muller
,, 3 cs. & Co.
,, 4 cks. Robinson, Roberts & Co.
Germany, 10 cs. Argo S.S. Co.
Belgium, 4 cks. L. Berger & Sons
,, 4 J. Harrison

Wax—
E. Indies 18 cs. Cook & Co.
Germany 23 6 Pls. T. H. Lee
,, 150 bgs
,, 12 L. & I. D. Jt. Co.

White Lead—
Germany, 101 cks. Spies Bros. & Co.
,, 4 Randall Bros.
Belgium, 63 J. L. Lyon & Co.
,, 56 T. W. Farmiloe
Germany, 5 Argo S.S. Co.
Holland, 28 Randall Bros.
,, 22 J. Owen

Zinc Ashes—
Queensland, 2 t. W. A. Sparrow & Co.

Zinc Oxide—
Holland, 10 cks. Van Dam & Co.
U.S.A., 600 brls. M. Ashby, Ld.
Holland, 100 ,,

Zinc White—
Holland, 22 cks. W. H. Muller & Co.

LIVERPOOL

Week ending August 15

Aluminium—
Havre, 59 bgs. Cunard S.S. Co.

Antimony—
Constantinople, 97 cs.

Antimony Ore—
Mollendo, 260 cs. Mellin & Co.
A'fagasta, 290 sks. Barber & Co.
,, 1,380 Aramayo & Co.

Antimony Oxide—
A'fagasta, 534 sks. Barber & Co.

Antimony Sulphide—
A'fagasta, 246 sks. Barber & Co.

Arsenic—
Oporto, 55 cks.

Barium Sulphate—
Antwerp, 100 bgs.

Barytes—
Antwerp, 46 cks.
Rotterdam, 140 bgs.

Beeswax—
Boston, 5 cs.

Boracic Acid—
Bordeaux, 1 ck.

Borate of Lime—
Mollendo, 2,812 sks. Borax Consolidated, L.
A'fagasta, 8,064 ,,

Borax—
Arica, 394 sks. Canepa Bros. & Co.

Castor Oil—
Genoa, 30 cs.
Leghorn, 16
Calcutta, 475

Chemicals (*otherwise undescribed*)
Bordeaux, 50 cks.
Rouen, 1 Co-op. W'sale Soc.

Colours—
Antwerp, 2 cks.

Copper Ore—
Huelva, 3,241 t.
Lisbon, 100

Copper Ore—
A'fagasta, 400 sks. Banco, Aleman Trns.
Mollendo, 720 cs. Barber & Co.
Chanaral, 400 Gibbs & Sons
Callao, 540 sks. Steinhardt, Walker & Co.
,, 1,230

Cream of Tartar—
Bordeaux, 153 cks.

Dyestuffs—
Indigo (Synthetic)
Rouen, 500 c.
Tannin
New York, 25 brls.
Tannin Extract
Bordeaux, 535 cks.

Ferro Silicon—
Gothenburg, 25 cks.

Glue—
Bordeaux { 21 cks. 20 bls. / 10 cs.
Marseilles, 5 20

Glycerine—
Amsterdam, 100 cs.

Lactic Acid—
Boston, { 64 brls. / 5 kgs.

Lithopone—
Rotterdam, 140 cks.

Magnesite—
Amsterdam, 150 bgs.
Rotterdam, 413

Magnesite Ore—
Calcutta, a qty.

Manganese Ore—
Gothenburg, a qty. Everitt & Co.

Manganese Silico—
Bordeaux, 73 cks.

Manure—
Antwerp, 370 bgs.

Mineral White—
Bordeaux { 1,800 bgs. / 82 cs.

Olive Oil—
Marseilles, 1 ck. C. Deymann
,, 308
Bordeaux, 400 cs.

Paraffin Scale—
N. York, 1,100 brls. Anglo-Am. Oil Co.

Phosphate—
Sfax, 1,524 t.

Potash—
Portland, 16 cks.
Hamburg, 19

Potassium Chlorate—
Gothenburg { 25 cks. / 10 kgs.

Potassium Iodide—
Kobe, 10 cs.

Pyrites—
Huelva, 2,540 t.

Pyrites (Copper)—
Huelva, 3,368 t. Matthiessen & Co.

Pyrites (Iron)—
Huelva, 30 t.

Pyrogallic Acid—
Hamburg, 21 cs.

Rosin—
Bordeaux, 244 cks.
Lisbon, { 20 cs. / 78 brls.
New Orleans, 1,000

Rubber—
W.C.S. Am. 39 bgs. 33 pks.
W.C. Africa, 1
Boston, 14 cs.
Attuaboe, 3 pks. Millers, Ld.
Bayin, 1 brl. Taylor & Co.
H. Assini, 21 cks. Millers, Ld.
Half Jack, 1 Woodin & Co.
Sassandra, 13 R. & W. King
,, 3
,, 2 Woodin & Co.
,, 8 Rider, Son & Andrew
,, 4 Cie Francaise de K.
Sherbro, 3 brls. ,,
,, 1 ck. Pickering & Berthoud
S. Leone, 2 brls. ,,

Rubber—
Conakry, 9 bgs. Victor & Lohman
,, 2 cks. 1 brl. Diaper & Son
,, 1 3 bgs. Cie Francaise de Kong
,, 8 pks. Broadhurst, Sons & Co.
,, 1 Paterson, Zochonis & Co.
Bathurst, 5 brls. A. Cros. & Co.
,, 3 2 cs. Bathurst Trading Co.
,, 1 C. Francaise de K.
Dakar, 223 bgs. ,,
,, 17 cks. ,,
,, 7 brls.
Valparaiso, 7 bls. Harmsworth
Bordeaux, Watson & Co.
1 cs.
Burutu, 5 cks. Niger Co.,
,, 323 bgs. Ld.
Lagos, 1 Holt & Co.
,, 1 McIver & Co.
,, 1 Lagos Stores, Ld.
,, 1 H. B. W. Russell & Co.
,, 2 Paterson, Zochonis & Co.
Accra, 1 bx. 1 pun. F. & A. Swanzy
C. C. Castle, 1 brl. H. B. W. Russell & Co.
Sekondi, 1 ck. ,,
,, 4 Millers, Ld.
Pernambuco, 7 brls.
Natal, 37
Maranham, 6 bls.
Hamburg, 75 bgs.
Para, 251 cs.

Salt—
Burutu, 1 cs. W. R. Dunstan

Saltpetre—
Calcutta, 290 bgs.
Hamburg, 32 cks.

Silver Ore—
Mollendo, 320 sks. Graham, Rowe & Co.
A'fagasta, 93 bgs. Aramayo & Co.

Soap—
Genoa, 98 cs.
Leghorn, 120
Marseilles, 20 D. Maccabe
,, 407
Salonica, 13
New Orleans, 600 brls.

Soap Stock—
Leghorn, 100 brls.
New Orleans, 600

Sodium Acetate—
Antwerp, 7 cks.

Sodium Nitrate—
Rotterdam, 7 cks.

Sodium Sulphocyanide—
Antwerp, 22 cks.

Starch—
Antwerp, 661 cs.
Dunkirk, { 80

Stearine—
Antwerp, 10 bgs.
Rotterdam, 15

Tallow—
Boston, 1 bx.
{ 75 brls.
N. York, { 405 tres.
{ 100 hhds.
,, 225 Evalk & Co.
,, 50 Swift & Co.
,, 33 Co-op. W'sale Soc.
N. Orleans, 250 150 brls.
Rouen, 25 bgs. Co-op. W'sale Soc.
Shanghai, 2,238 pks.
Yokohama, 1,530
W.C.S. America, 216 brls.

Tartaric Acid—
Barletta, 26 cks.
Rotterdam, 16

Tin Ore—
A'fagasta, 535 sks. Schroeder
,, 386 bgs. & Co.
,, 1,928 Titley & Co.
,, 310 London Bk. of M. & S. A.
,, 260 Deutsch Bank

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Tin Ore—
Antofagasta, 780 cs. A. Gibbs & Son
" 1,035 Ldn. City & Mid. Bk.

Turpentine—
Bordeaux, 1 ck.

Ultramarine—
Rotterdam, 22 cks.

Wax—
Conakry, 10 pks. Victor & Lohman
" 3 Diaper & Son
" 15 Cie Franc. de K.
" 23 Paterson, Zochonis & Co.
Bathurst, 26 A. Cros. & Co.
" 5 Bathurst Tdg. Co.
" 7 Cie Franc. de K.
Dakar, 42 "
" 46 A. Cros & Co.
Natal, 33 bgs.
Valparaiso, 2 brls. Napp & Co.
" 80 cs.
Baltimore, 124
Eten, 3 Napp & Co.
Montreal, 424 Anglo-American Oil Co.

White Lead—
Rotterdam, 82 cks.

Wolfram Ore—
Lisbon, 11 bgs.

Zinc Oxide—
New York, 300 brls.
Antwerp, 8

Zinc White—
Rotterdam, 62 cks.

MANCHESTER.

Week ending August 17.

Acids (*otherwise undescribed*)—
Antwerp, 2 brls.

Albumine—
Genoa, 8 cs.

Antimony—
Hamburg, 14 cks.

Antimony Salt—
Rotterdam, 6 cks.

Asbestos—
Quebec, 2,780 bgs.
Genoa, 50 cs.

Carbonic Acid Gas—
Rotterdam, 32 tubes

Caustic Potash—
Treport, 10 cks.

Chemicals (*otherwise undescribed*)
Ghent, 100 bgs. Fletcher & Co.
Hamburg, 16 cks.
Rotterdam { 20 cs. / 39 9 brls. / 5 kgs.

Chromic Acid—
Hamburg, 3 dms.

Chromium Fluoride—
Rotterdam, 5 cs.

Coal Products—
Alizarine
Rotterdam, 90 brls.
Aniline Oil
Rotterdam, 1 ck.
Carbolic Acid
Philadelphia, 4 cs.

Colours—
New York, 416 cs.
Rouen, 108 cks.
Treport, 4
Hamburg, 1 brl.
Rotterdam, 159

Dyestuffs—
Extracts (*otherwise undescribed*)
Genoa, 289 brls.
Leghorn, 50
Indigo Paste
Rotterdam, 49 brls.
Tannin
Hamburg, 8 cks.
Rotterdam, 12
Tannin Extract
Rotterdam, 10 cks.

Farina—
Rotterdam, 60 bgs.

Ferro Chrome—
Rouen, 22 cks.

Glue—
Antwerp, 30 bgs. Fletcher & Co.
" 40 bls.
Hamburg, 20 bgs.
Rotterdam, 20
Treport, 28 bls. 15 pks.
Rouen, { 15 cks. / 12 cs.

Glue Stock—
Genoa, 20 bls.
Marseilles, 625 bgs.

Litharge—
Rouen, 10 cks.
Rotterdam, 57

Magnesite—
Amsterdam, 100 bgs.

Oxalic Acid—
Hamburg, 16 cks.
Rotterdam, 3

Paraffin Scale—
Philadelphia, 400 brls.
New York, 240

Paraffin Wax—
Philadelphia, 804 brls.

Potash—
Montreal, 14 brls.
Hamburg, 8 cks.

Potassium Muriate—
Hamburg, 500 bgs.

Potassium Prussiate—
Antwerp, 18 cks.
Rotterdam, 4

Pyrites (Iron)—
Pomaron, 3 t.

Red Lead—
Rouen, 10 cks.
Rotterdam, 11

Rosin—
Philadelphia, 900 brls.

Salt—
Philadelphia, 40 cks.
Hamburg, 1

Soap—
New York, 860 brls.
Genoa, 350 cs.
Rotterdam, 4

Soapstone—
Genoa, 380 bgs.

Soda Crystals—
Antwerp, 30 cks. Feltcher & Co.

Sodium Chlorate—
Treport, 20 cks.
Marseilles, 11

Sodium Nitrite—
Rouen, 22 cks.

Starch—
Antwerp, { 2 bgs. / 236 cs.
A'sterdam, 100
Dunkirk, 50 110
Ph'delphia, 2150
N. York, 3,000
Hamburg { 5 cks. / 40
Rotterdam, 20

Stearine—
Antwerp, { 2 cks. / 25 bgs.

Tallow—
Boston, 20 brls.

Turpentine—
Philadelphia, 20 dms.

Ultramarine—
Rotterdam, 6 cks.

Wax—
New York, 280 brls.
Marseilles, 6 cs.

Zinc Oxide—
Rotterdam, 72 brls.

Zinc White—
Rotterdam, 5 cks.

HULL.

Week ending August 17.

Aluminium—
Antwerp, 51 cs. Wilsons & N.E. R. S. Co.

Aluminium Sulphate—
Ghent, 50 bgs. Wilsons & N.E. R. S. Co.

Arsenic—
Antwerp, 29 cks.

Barytes—
Antwerp, 395 cks.
" 40 Wilsons & N.E.
" 70 bgs. R. S. Co.
Rotterdam, 550 Hull & N. S.S. Co.

Calcium Carbide—
Christiania, 20 dms. Wilson, Sons & Co., Ld.
Drontheim, 110 "

Castor Oil—
Leghorn, 10 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 16 cks. Hull & N. S.S. Co.
Hamburg, 6 cbys.

Citric Acid—
Rotterdam, 8 cks. Hull & N. S.S. Co.

Coal Products—
Alizarine
Rotterdam, 11 pks. Hull & N.
" 8 brls. S.S. Co.
" 231 H. & B. Rly. S.S. Line
Aniline
Rotterdam, 22 cks. H. & B. Rly
1 cs. S.S. Line
" 127 pks. Hull & N.
6 brls. S.S. Co.
Creosote Salt
Rotterdam, 11 pks. Hull & N. S.S. Co.
Tar
Naples, 1,755 brls.
Stockholm, 250 Wilson, Sons & Co., Ld.
Tar Oil
Rotterdam, 54 cks. Hull & N. S.S. Co.

Colours—
Rotterdam, 25 pks. Hull & N. S.S. Co.
Bremen, 8 cks. Veltmann & Co.
Antwerp, 21 Wilsons & N.E. R. S. Co.

Copper Ore—
Drontheim, 20 bgs. Wilson, Sons & Co., Ld.

Dyestuffs—
Quebracho
B. Ayres, 700 bgs.
Sumac
Palermo, 200 bgs.

Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.

Ferro Silicon—
Antwerp, 32 cks. Wilsons & N.E. R. S. Co.

Glue—
Antwerp, 60 bgs.

Glycerine—
Stockholm, 42 cks. Wilson, Sons & Co., Ld.
Amsterdam, 4 dms. Hull & N. S.S. Co.

Magnesite—
Trieste, 573 bgs. Wilson, Sons & Co., Ld.
" 332
Fiume, 178 cs. "

Manganese—
Hamburg, 9 cs. Wilsons & N.E. R. S. Co.

Mineral White—
Genoa, 90 bgs. Wilson, Sons & Co., Ld.
Trieste, 60

Olive Oil—
Bari, 50 brls.
Leghorn, 26 cs.

Paraffin Scale—
Boston, 1,277 brls.

Phosphate—
Bona, 1,600 t.

Potash—
Antwerp, 54 cks. Wilsons & N.E. R. S. Co.

Red Lead—
Amsterdam, 6 cks. Hull & N. S.S. Co.
Rotterdam, 20 "

Rubber—
Riga, 25 pks.

Saltpetre—
Hamburg, 23 cks. Wilsons & N.E. R. S. Co.

Soap—
Naples, 4 cs. Wilson, Sons & Co., Ld.

Soap Powder—
Boston, 450 bxs.

Soda—
Ghent, 110 bgs.

Starch—
Bremen, 20 cks. Veltmann
794 cs. & Co.
Antwerp, 30
" 84 Wilsons & N.E.
R. S. Co.
Ghent, 73 "

Tartaric Acid—
Bari, 87 cks. Wilson, Sons & Co., Ld.
Genoa, 12 "

Ultramarine—
Rotterdam, 6 cks. Hull & N. S.S. Co.
Antwerp, 20 "

White Lead—
Amsterdam, 48 cks. Hull & N. S.S. Co.
Rotterdam, 44 "

Zinc Oxide—
Hamburg, 10 cks. Wilsons & N.E. R. S. Co.
Rotterdam, 8 Hull & N. S.S. Co.

Zinc White—
Marseilles, 5 brls. Wilson, Sons & Co., Ld.
Rotterdam, 14 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending August 22

Acetic Acid—
Rotterdam, 43 cks.
Christiania, 16 brls.

Ammonium Phosphate—
Antwerp, 14 cks.

Alumina—
Amsterdam, 680 bgs.

Aluminium Sulphate—
Rotterdam, 105 bgs.

Asbestos—
Genoa, 19 pks.

Asbestos Crude—
Montreal, 300 bgs.

Barium Sulphate—
Antwerp, 550 brls.

Bone Meal—
Bombay, 3,200 bgs.

Calcium Carbide—
Gothenburg, 50 dms.

Castor Oil—
Antwerp, 28 brls.
Leghorn, 25 cs.
Marseilles, 28

Chalk (French)—
Genoa, 100 bgs.

Chemicals (*otherwise undescribed*)
Rotterdam, 13 pks. 1 bx.

Coal Products—
Alizarine
Rotterdam, 30 brls.
Amsterdam, 47 pks.
Aniline
Rotterdam, 46 pks.
Paranitraniline
Rotterdam, 5 brls.

Colours—
Marseilles, 200 cks.
Rotterdam, 197 pks.

Cream of Tartar—
Marseilles, 25 cks.
Valencia, 10 brls.
Bordeaux, 142

Dyestuffs—
Myrabolans
Bombay, 372 bgs.
Tannin Extract
Marseilles, 200 cks.

Fish Oil—
Genoa, 98 brls.

Glue—
Calcutta, 7 cs.
Antwerp, 45 bls.

Glue Stock—
Montreal, 43 brls.

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Linseed Oil—
Amsterdam, 172 brls.
Lithopone—
Rotterdam, 40 cks.
Magnesite—
Christiania, 102 bgs.
Manganesium Chloride—
Rotterdam, 8 cks.
Oleine—
Marseilles, 69 cks.
Antwerp, 12 brls.
Olive Oil—
Marseilles, 2 cks.
Messina, 32 1 cs. 4 brls.
Paraffin Wax—
Calcutta, 203 bgs.
Red Lead—
Rotterdam, 10 cks.
Rosin—
New York, 300 brls.
Soap—
Boston, 2 crts. 14 cs.
Leghorn, 50
New York, 250 brls.
Soap Powder—
New York, 1,000 bxs.
Soap Stone—
Genoa, 50 bgs.
Soda—
Rouen, 1 ck.
Sodium Chlorate—
Marseilles, 20 cks.
Starch—
Rotterdam, 227 cs.
Amsterdam, 40 bgs.
Ghent, 46
Antwerp, 185
Stearine—
Gothenburg, 20 brls.
Sulphur—
Catania, 1,150 bgs.
Sumac—
Palermo, 280 bgs.

Tumeric—
Calcutta, 2 bgs.
Ultramarine—
Rotterdam, 4 cks.6 cs.
Wax—
New York, 200 brls.
White Lead—
Rotterdam, 88 cks.
Zinc Oxide—
Antwerp, 8 brls.
New York, 180
Zinc White—
Rotterdam, 8 cks.

TYNE.

Week ending August 17.

Antimony—
Hamburg, 720 bars Tyne S.S. Co.
Barytes—
Rotterdam, 566 bgs. Tyne S.S. Co.
Colours—
Hamburg, 3 cks. Tyne S.S. Co.
Copper Ore—
Antwerp, 135 pks. J. Arnott & Sons
Copper Oxide—
Hamburg, 2 dms. Tyne S.S. Co.
Ferro Silicon—
Antwerp, 51 cks. J. Arnott & Sons
Rosin—
Ferrandina, 252 brls.
Salammoniac—
Rotterdam, 10 cks. Tyne S.S. Co.
Soda—
Bergen, 13 cs. P. H. Matthiessen & Co.
Starch—
Rotterdam, 60 cs. Tyne S.S. Co.
Stearine—
Antwerp, 25 bgs. J. Arnott & Son
Tartar—
Rotterdam, 2 cks. Tyne S.S. Co.

Tartaric Acid—
Rotterdam, 18 cks. Tyne S.S. Co.

GOOLE.

Week ending August 17.

Barytes—
Rotterdam, 100 bgs.
Bog Ore—
Delfzyl, 119 t.
Caoutchouc—
Boulogne, 9 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 135 bgs.
Boulogne, 18 cks. 5 cs.
Hamburg, 12 26 pks.
Rotterdam, 28 1 dm.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 34 cks. 4 cs.
Boulogne, 2 pks.
Hamburg, 166 40
Dyestuffs—
Logwood
Hamburg, 5 t. 5 c.
Farina—
Delfzyl, 50 bgs.
Iron Chloride—
Rotterdam, 2 cks.
Lithopone—
Hamburg, 40 cks.
Magnesite—
Amsterdam, 150 bgs.
Oleine—
Rotterdam, 2 cks.
Oxalic Acid—
Hamburg, 5 cks.
Phosphate—
Dunkirk, 300 t.
Phosphate of Lime—
Boulogne, 915 bgs.
Potash—
Hamburg, 70 dms.
Starch—
Rotterdam, 40 cs.
Dunkirk, 31

Stearine—
Boulogne, 21 cks.
Wax—
Hamburg, 30 cs.

GRIMSBY.

Week ending August 14.

Acetic Acid—
Hamburg, 35 blns.
Ammonia (Anhydrous)—
Antwerp, 2 cbys.
Barytes—
Antwerp. 50 bgs.
Benzol (Rosin)—
Hamburg, 1 cs.
Caoutchouc—
Hamburg, 61 cs.23 pks.
Antwerp, 7
Rotterdam, 2
Chemicals (*otherwise undescribed*)
Hamburg, 2 cs.
Colours—
Hamburg, 1 ck.18 cs.
Antwerp, 40 pks.
Rotterdam, 1
Dyestuffs (*otherwise undescribed*)—
Antwerp, 3 cks.
Ferro Chrome—
Dieppe, 11 cks.
Ferro Silicon—
Antwerp, 68 cks.
Glue—
Dieppe, 12 c.
Potassium Bicarbonate—
Antwerp, 2 cks.
Saltpetre—
Rotterdam, 270 bgs.
Soda Crystals—
Antwerp, 20 cks.
Starch—
Rotterdam, 20 cs.
Sulphuric Acid—
Rotterdam, 1 ck.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 21.

Alumina Phosphate—
Kobe, 2 t. £9
Yokohama, 2 9
Ammonia—
Wellington, 4 cs. £6
Calcutta, 20 24
B. Ayres, 30 32
Rosario, 10 40 dms. 52
Napier, 2 c. 12
Durban, 7 16
M. Video, 52 44
Delagoa Bay, 25 50
Shanghai, 13 39
Rangoon, 13 30
Ammonium Carbonate—
Antwerp, 10 kgs.1 c. £46
Hamburg, 1 t. 9 13 cks. 107
Ammonium Sulphate—
Emmerick-on-Rhine, 28 t. 18 c. £347
Kobe, 362 4,350
Treport, 19 14 240
Rouen, 29 11 360
Antimony—
Para, 6 kgs. £25
Antimony (Regulus)—
Bombay, 5 c.
Copenhagen, 11
Hamburg, 13 t.
Boston, 5 2
Hamburg, £92
Rotterdam, 5 10
St. Petersburg,5
Seville, 10
Antimony Sulphide—
Boulogne, 5 cks. £70
Arsenic—
Cape Town, 2 cs. 3 dms. £11

Asbestos—
Madras, £12
Singapore, 35
Saukim, 60
Durban, 25
Sydney, 20
Barium Binoxide—
Paris, 25 t. 2 c. £853
Bleaching Powder—
Delagoa Bay, 7 cks. £12
Bones—
Boston, 25 t. £125
Boracic Acid—
Marseilles, 10 c. £12
Borax—
B. Ayres, 12 c. £19
Harlingen, 5 kgs. 25
Rotterdam, 1 t. 17 81
Calcium Carbide—
Algoa Bay, 1 t. 19 c. £21
Wellington, 1 5 35
Caustic Potash—
Napier, 2 cs. £12
Caustic Soda—
Delagoa Bay, 3 t. 17 c. £52
Shanghai, 8 6
Chalk—
Boston, 600 t.
Phila'phia,3,000
Chemicals (*otherwise undescribed*)
Cape Town, 3 cs. £18
Rangoon, 20 133
Sydney, 8 35
Hamburg, 2 70
Melbourne, 2 5
Barcelona, 2 51
Algoa Bay, 4 9
Bremen, 22 6
Boulogne, 3 62
Adelaide, 5 52
Ostend, 30 16

Chemicals (*otherwise undescribed*)
Genoa, 23 pks. £89
Brussels, 10 17
Durban, 4 100 dms. 5 cs. 35
Citric Acid—
Napier, 1 cs. £7
Westport, 1 c. 12
H. Kong, 9 12
Singapore, 1 56
Malta, 1 12
Hamburg, 9 64
Genoa, 3 t. 4 641
Rotterdam, 8 56
Rangoon, 1 11
Coal Products (*otherwise undes.*)—
Treport, 50 t. 17 c. £140
Coal Products—
Alizarine
Bombay, 105 cks. £362
Madras, 82 474
Triticorin, 53 648
Aniline
Sydney, 1 cs. £22
Aniline Dye
Copenhagen, 4 kgs. £9
Boulogne, 2 cks. 49
Lyttelton, 2 73
Anthracene
Hamburg, 56 cks. £150
Benzine
Palermo, 60 dms. £45
Benzol
Hamburg, 25 cks. £44
Carbolic Acid
Antwerp, 6 cks. £12
Libau, 5 34
New York, 20 132
Rotterdam, 6 12
Carbolic Acid (Crystals)
Yokohama, 100 cks. £257
Calcutta, 6 cs. 12

Coal Products—
Creosote
Boston, 125 cks. £156
Ghent, 5 6
Creosote Salts
Christch'h, 112 cks. £100
Naphthaline
Yokohama, 20 cks. £15
Sydney, 7 cs. 63
Calcutta, 30 14
Aden, 5 10
Mombasa, 276 bgs. 150
Pitch
Sydney, 5 brls. £10
Hamburg, 24 48
Port Said, 4 cks. 5
Pyridine
Adelaide, 1 dm. £2
Melbourne, 4 10
Tar
Monte Video, 6 brls. £8
Perth, 100 dms. 21
Sydney, 1 cs. 7
Nairobi, 5 6
Bordeaux, 20 cks. 9
Tar Oil
Rotterdam, 10 cks. £14
Copper Sulphate—
Calcutta, 5 t. £150
Rotterdam, 15 457
Odessa, 5 155
Hamburg, 5 155
Antwerp, 10 305
Nelson, 5 c. 8
Puerto Mexico,1 18 53
Channel Is., 10 16
Cottonseed Oil—
Bordeaux, 8 t. 5 c.
Melbourne, 10 1
Cream of Tartar—
Melbourne, 10 c. £40

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Cyanide (*otherwise undescribed*)—
Toronto, 10 c. £35

Disinfectant—
Algoa Bay, 25 dms. £8
Beira, 70 30
Brussels, 16 btls. 19
12 cbys.
Cologne, 5 cs. 88
Wellington, 10 2 140
Christchurch, 5 15
Brisbane, 12 11
Channel Is., 1 pk. 6
Gisborne, 2 6
E. London, 120 122 76
Penang 200 56
Rio de Jan., 200 200
Hamburg, 30 4 brls. 32
2 ck. 20
Midan, 12 46
Montreal, 10 5
Rangoon, 1 6
Shanghai, 1
Sydney, 25 18 219
220 dms.
Marseilles, 2 27
P. Elizabeth, 220 41
Delagoa Bay 10 9
Ostend 1 35
Alexandretta 1 17
Port Sudan 4 11
Auckland 1 6
Lyttelton, 1 tnk. 20
Singapore 64 pks. 4 28

Fertilisers—
Rigo, 700 t. £1,522
S. d'Olonne, 231 10 c. 825

Glycerine—
N. Orleans, 11 t. £643
Philadelphia, 48 10 c. 1,450
Calcutta, 2 6
Durban, 2 4
Yokohama, 5 15

Lactic Acid—
Melbourne, 1 t. 2 c. £29

Linseed Oil—
Auckland, 7 t. 10 c.
Bombay, 2
Broome, 1 2
Canary Is., 1
Delagoa Bay, 14
E. London, 8
Halifax, 29
Hamburg, 1 11
H. Kong, 4 5
Jamaica, 2 13
Kobe, 4
Lyttelton, 1 10
Malta, 2 5
Melbourne, 23 5
Monte Video, 4 4
Otago, 1 1
Pernambuco, 1 1
Perth, 1 4
Piræus, 18
P. Elizabeth, 6 10
Port Said, 10
Port Sudan, 2
Rangoon, 3 3
Santos, 2 14
Tangiers, 7
Adelaide, 8 11
Azores, 17
Nagasaki, 2
Oporto, 11
Madras, 15
Sarawak, 8
Shanghai, 6 2
Colombo, 18
Greymouth, 11
Singapore, 1 4
Sydney, 5 4

Manganese Bronze—
Durban, 1 t. 10 c.

Manure—
Channel Is., 1 t. 6 c. £19
Genoa, 30 210
Lisbon, 642 6,014 bgs. 2,930
Alicante, 140 3 c. 457
Seville, 131 404
New York, 10 8
Kobe, 100 1 800
Copenhagen, 492 12 1,505
Havana, 115 625

Potash—
Bordeaux, 3 c. £6
Calais, 2 6
Brussels, 8 15

Potassium Bichromate—
Melbourne, 3 c. £5

Potassium Chlorate—
Para, 6 c. £14

Potassium Cyanide—
Melbourne, 10 cs. £76

Potassium Permanganate—
Melbourne, 6 c. £9

Potassium Sulphite—
Brussels, 1 c. £6

Quinine—
Calcutta, 8,000 ozs.

Salammoniac—
Antofagasta, 3 t. £123
Trebizonde, 1 40

Salicylic Acid—
Melbourne, 2 cs. £11

Salt—
Durban, 2 t.
E. London, 1
Lyttelton, 60
Wellington, 50

Saltcake—
Kotka, 621 t. £1,250

Saltpetre—
Napier, 5 c. £6
Auckland, 8 13
Melbourne, 4 t. 2 114
Port Chalmers, 1 3 28
Copenhagen, 5 5 123
Santiago, 1 17 50
Algoa Bay, 11 15

Salts of Lime—
Brussels, 2 cs. £32

Sheep Dip—
Delagoa Bay, 13 c. £28

Silver Nitrate—
Melbourne, 1 cs. £26

Soap—
Antofagasta, 4 t. 9 c.
Batavia, 3
Boulogne, 2
Calcutta, 1 10
Christchurch, 11
Chinde, 1 5
Colombo, 4 8
Cyprus, 10
Durban, 14
E. London, 4
Fremantle, 1
Ghent, 2
Gibraltar, 1
Hankow, 1
H. Kong, 6
Mombasa, 13
Monte Video, 2 2
P. Elizabeth, 1 3
Rangoon, 6
Rosario, 2
Shanghai, 1
Singapore, 7
Sydney, 4 16
Wellington, 17
Alexandria, 5 10
Beyrout, 5
Bombay, 2 7
Hamburg, 5
Manilla, 1
Montreal, 9
Napier, 7
Para, 3
Ostend, 2
Penang, 1 2
Piræus, 4
Port Said, 2
Rotterdam, 2
St. Lucia, 3
Smyrna, 2
Tientsin, 4

Soap Extract—
Wellington, 1 t.

Soap Powder—
Christiania, 1 t. 2 c.
Lyttelton, 1 3

Sodium Bicarbonate—
Para, 6 c. £8

Sodium Carbonate—
Zanzibar, 1 t. 3 c. £10

Sodium Peroxide—
Melbourne, 17 c. £54
H. Kong, 1 7

Sodium Sulphate—
Shanghai, 6 c. £8

Sodium Tartrate—
Sydney, 3 c. £8

Starch—
Alexandria, 7 c.
Christchurch, 2 t.
Colon, 9
Durban, 1
E. London, 4 12
Lyttelton, 8
Mombasa, 5
P. Elizabeth, 1 2
Smyrna, 2 10
Timaru, 10
Wellington, 1 11

Starch—
Antofagasta, 2 t.
Delagoa Bay, 2 4 c.
Paris, 10
Trebizonde, 5

Sulphur—
Hamburg, 12 c. £5
Montreal, 54 t. 14 230
Algoa Bay, 1 2 10
Ghent, 3 5 348

Sulphuric Acid—
Monte Video, 13 c. £14
Channel Is., 18 10
Calcutta, 1 t. 21
Zanzibar, 2 18 35
B. Ayres, 1 5

Superphosphate—
Lisbon, 431 t. 3 c. £1,149
Jersey, 87 244

Superphosphate of Lime—
Durban, 40 t. 1 c. £130

Tallow—
Antwerp, 24 t. 18 c.
Brussels, 98 14
B. Ayres, 2 10
Hamburg, 47
Rotterdam, 10
Hamburg, 19 19
Konigsberg, 10
Odessa, 50
Riga, 44 18

Tartaric Acid—
Toronto, 1 cs. £7
Auckland, 2 c. 10
E. London, 1 6
Brussels, 1 6
Algoa Bay, 1 6
Singapore, 5 28
Wanganui, 1 6
New Plymouth, 1 6
Shanghai, 2 12
Santiago, 1 t. 121
Port Sudar, 6 30
H. Kong, a qty. 21

White Lead—
Bombay, £133
Cape Town, 35
E. London, 14
Hamburg, 31
H. Kong, 19
Madras, 14
Melbourne, 1,401
Otago, 67
Perth, 215
Port Elizabeth, 23
Wellington, 181
Delagoa Bay, 32
Hamburg, 25
H. Kong, 27
Sydney, 891

LIVERPOOL.

Period ending August 21.

Alum—
P. Madryn, 1 cs. £1
Maranham, 2 brls. 1
Adelaide, 3 t. 3 c. 17
Algoa Bay, 3 1
Guayaquil, 8 3
New York, 2 kgs. 1
Rangoon, 7 37

Alumina Sulphate—
Singapore, 1 t. 2 c. £5

Ammonia—
P. Madryn, 2 cs. £3

Ammonium Carbonate—
Stockholm, 5 t. £168
Colombo, 10 cs. 16
Marseilles, 1 ck. 3
Oporto, 1 t. 33
Havana, 5 c. 11
Callao, 10 22
Genoa, 2 5 78
Sydney, 1 17 65
New Orleans, 2 10 72

Ammonium Sulphate—
Norfolk, 50 t. £572
Alicante, 75 12 c. 865
Colombo, 15 6 179
Las Palmas, 29 15 358
Newport, N., 194 13 2,316
New York, 100 5 1,209
Lisbon, 39 17 476
P. Cruz, 1 12
Gd. Canary, 22 268
Teneriffe, 19 19 237
Philadelphia, 60 10 720
Trinidad, 92 1,091
Hamburg, 50 8 580
Havana, 9 17 33
La Plata, 1 11 6

Ammonium Muriate—
Philadelphia, 5 t. 10 c. £129
Barcelona, 6 4 143
Marseilles, 1 9 35
Vera Cruz, 10 12
Hamburg, 1 6 31
Genoa, 2 17 69
Bourgas, 1 24
Varna, 1 4 29
Montreal, 1 4 29
Patras, 6 7
Alexandria, 1 24
Stockholm, 1 11 34

Antimony—
Calcutta, 2 cs.

Arsenic—
Leghorn, 5 c. £7
Christiania, 17 28

Barium—
Lisbon, 1 kg. £7

Barium Sulphate—
Vera Cruz, 12 c. £3

Basic Slag—
Ancona, 394 t. 2 c. £592
Corunna, 20 30
Oporto, 198 4 290
Leghorn, 98 10 197

Bleaching Powder—
Montreal, 128 cks.
New Orleans, 26 231 brls. 75 bxs.
New York, 137
Rio de Jan., 20 cs.
Rotterdam, 33

Boiler Composition—
Taltal, 7 cks.

Boracic Acid—
Melbourne, 3 t. £78
Cape Town, 5 c. 7
Adelaide, 3 4
Montreal, 3 5
Hiogo, 1 5 31
Yokohama, 1 10 39

Borax—
P. Madryn, 1 kg. £1
Patras, 8 c. 6
Sekondi, 7 14
Galatz, 2 t. 3 32
New York, 6 13 97
Melbourne, 5 80
Cardenas, 2 10 33
Havana, 5 75
C. Town, 1 4 19
Nauplia, 4 3
Adelaide, 5 80
Valparaiso, 4 4 65
Yokohama, 2 19 45
Sagua la G., 9 7
Alexandria, 1 2 15

Calcium Chloride—
Alexandria, 5 t. 3 c. £10
Montreal, 15 19 38
2 dms. 10
Brisbane, 5 t. 28
Durban, 14 5 7
Nigeria, 3 3 6
Wellington, 2 13 2
Victoria, 1 2 15
Hiogo, 7 11

Carbonate of Lime—
New York, 1 t. 14 c. £19

Carbonic Acid Gas—
Manaos, 4 c. £15
Chile, 6 tubes 2

Castor Oil—
Kumasi, 6 cs.
Montreal, 100

Caustic Soda—
Adelaide, 111 dms.
Amsterdam, 94
Barcelona, 20 brls. 158
Brisbane, 20 82
B. Ayres, 15
Calcutta, 53
Catania, 100
Chemulpo, 6
Christiania, 43
Copenhagen, 2
Corral, 130 cs. 10
Dunedin, 6
Durban, 60
Galatz, 248
Genoa, 80
Hamburg, 90
Lisbon, 10 cks. 50
Montreal, 51 brls. 5
Malta, 50
Manilla, 30
Melbourne,

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Caustic Soda—
Naples, 40 dms..
N. Orleans, 75 brls. 30
Oporto, 30
Para, 5
Parahyba, 20
Pernambuco, 150
Piræus, 105
P. Elizabeth, 15 cs.
Quebec, 25
Rio de Jan., 109
Shanghai, 68
Sydney, 200
Tampico, 200
Yokohama, 52

Chemicals (*otherwise undescribed*)
Bangkok, 50 dms. £8
Townsville, 20 cs. 160
Naples, 2 cks. 6 kgs. 16
Genoa, 6 4 10 brls. 101
Ancona, 10 80
Antwerp, 2 8
Bremen, 24 161
New York, 16 10 dms. 127
Rangoon, 40 89
Quebec, 41 45
Montreal, 144 brls. 480
Varna, 15 57
Adelaide, 2 5
Sekondi, 2 5
B. Ayres, 5 17
Kobe, 140 129
St. Johns, 1 kg. 2

China Clay—
Montreal, 209 cks.
Rio de Jan., 97
Tampico, 40

Citric Acid—
Manaos, 1 cs. £4
Yokohama, 10 c. 96

Citric Acid (Crystals)—
Maranham, 1 kg. £13

Coal Products—
Aniline Colour
Melbourne, 22 kgs. 10 cs.
New York, 15
Aniline Oil
New York, 3 dms.
Aniline Salts
Genoa, 5 t. £210
Carbolic Acid
Montreal, 3 dms. £2
Para, 1 1
Carbolic Acid (Liquid)
Rosario, 1 t. 2 c. £20
New York, 4 15 67
Carbolic Acid (Solid)
St. Nazaire, 12 btls. £9
Rosario, 10 c. 41
New York, 2 t. 5 152
Hamburg, 5 2 286
Creosote Salt (Waste)
Bordeaux, 5 t. £11

Copperas—
Arucus, 10 c. £1
Madras, 9 t. 15 22
Cape Town, 19 3
Teneriffe, 25 17 54
Gd. Canary, 4 1 10
Callao, 5 11 11

Copper Sulphate—
B. Ayres, 19 c. £32
Vera Cruz, 10 t. 10 315
Tampico, 30 1 891
Nantes, 7 3 207
Bordeaux, 19 9 539
Antwerp, 15 472
M. Video, 19 18 564
Konigsberg, 5 5 155
Riga, 2 2 61
Stettin, 4 13 139
Melbourne, 3 89
Galatz, 4 18 146
Talcahuano, 4 18 159
P. Alegre, 2 9 75
Malaga, 19 19 578
Varna, 14 21

Cottonseed Oil—
Bathurst, 60 brls.
Marseilles, 99

Cream of Tartar—
St. John, 2 c. £4

Cresylic Acid—
Sydney, 2 t. £23

Cyanide (*otherwise undescribed*)
Galatz, 2 t. 8 c. £167
Sekondi, 2 135

Disinfectants—
Natal, 16 pks. £14
Maranham, 1 cs. 9
Antwerp, 5 2 dms. 3
Montreal, 10 60
Addah, 5 7
Winnebah, 2 5
Calcutta, 33 600 69
Dunedin, 23 28
Montreal, 1 brl. 1 17
Delagoa Bay, 80 15
Copenhagen, 300 bxs. 23
Lagos, 10 6
Manaos, 1 16
Bombay, 599 93
Hsin Ho Wf. 1 15
Durban, 10 kgs. 2 7
Sydney, 1 ck. 36 9
Rangoon, 200 131
Shanghai, 1 5

Dried Blood—
Philadelphia, 24 t. £262
Colombo, 14 6 c. 142
Las Palmas, 10 8 112
Yokohama, 49 5 480

Dyestuffs—
Indigo Waste
New York, 10 cks.
Tanners' Extract
Melbourne, 2 cks.

Glue—
Havre, 5 cs.
Shanghai, 30
Montreal, 232 pks.

Glycerine—
Algoa Bay, 1 cs. £2
Quebec, 19 c. 46
Delagoa Bay, 49 t. 3 2,004
Montreal, 6 17 324
Yokohama, 6 18 325
Mossel Bay, 12 21
Dunedin, 11 38
New York, 13 11 435
Wellington, 1 55
Phila'phia, 102 14 3,236
Rotterdam, 33 2 723

Lactic Acid—
Melbourne, 7 c. £9
Auckland, 3 5

Lead Acetate—
Sekondi, 2 c. £6

Lead Nitrate—
Montreal, 2 t. 5 c. £80

Linseed Oil—
Antofagasta, 50 dms.
Campeche, 5 brls.
Ceara, 2
Galatz, 5
Karachi, 228
Matadi, 6
Monrovia, 12
Para, 59 30
Pernambuco, 10
Philadelphia, 4
Pettimo, 3
Syra, 2 cks.

Magnesia—
Smyrna, 14 c. £11
Philadelphia, 1 t. 2 79
Santiago, 1 cs. 14
Monte Video, 4 32

Magnesia (Calcined)—
Bahia, 1 cs. £5

Magnesium Citrate—
Limon, 1 cs. £4

Magnesium Carbonate—
Havana, 3 c. £4

Magnesium Chloride—
Dunkirk, 1 t. £11
Saigon, 1 19 c. 9
Bangkok, 19 4
New York, 20 4 55

Manganese Ore—
S. Francisco, 35 t. 4 c.

Manure—
Baltimore, 41 t. 3 c. £100
Havana, 150 972
Durban, 10 57
La Pallice, 21 6 125

Nitrate Silver Crystals—
Ceara, 1 cs. £4

Oxalic Acid—
Seville, 19 c. £39

Phosphorus—
Kobe, 4 t. 8 c. £760

Potash—
Manaos, 10 kgs. £13

Potassium Bichromate—
Bari, 1 t. 11 c. £48
Vera Cruz, 1 17 57
Bombay, 2 10 78

Potassium Carbonate—
Calcutta, 8 c. £11

Potassium Chlorate—
Yokohama, 5 t. £150
Danzig, 10 242
Havana, 1 33
Ancona, 2 56
Genoa, 2 54
Naples, 2 56

Potassium Cyanide—
Tultenango, 25 t. £2,300

Potassium Prussiate—
Vera Cruz, 1 t. 12 c. £96

Quinine Sulphate—
Loanda, 1 cs. £5

Red Lead—
Callao, 25 cs. 6 brls.

Rubber—
Braila, 11 bls.

Salammoniac—
Stamboul, 10 c. £19
Piræus, 4 8
Philadelphia, 6 t. 232
Barcelona, 1 12 62
Palermo, 15 29
Galatz, 7 16
Iquique, 4 9
Montreal, 3 120
Rangoon, 2 5 425
50 cks.

Salt—
Abonnema, 20 t.
Amsterdam, 503
B. Ayres, 9 8 c.
Calabar, 25
Cape Palmas, 4 9
Delagoa Bay, 55 cs.
Hamburg, 51 5
La Guayra, 15
New York, 50
Rio de Jan., 250
Shanghai, 50
N. Orleans, 200

Saltcake—
Stockholm, 94 t. 10 c. £95
Antwerp, 51 9 51
Lisbon, 50 141
Leghorn, 200 673

Saltpetre—
Parahyba, 10 c. £16

Saltpetre (Crystals)—
Maranham, 1 t. £27

Sheep Dip—
B. Ayres, 1,400 dms. 8 t. 18 c. £1,385 300 cs.
Beira, 6 c. 9
Buenaventura, 2 cs. 8
N. Zealand, 2 620 431
Punta Arenas, 5 100 210 30 cks. 440
Quebec, 1 t. 16 c. 109

Soap—
Alexandria, 20 dms.
Amsterdam, 500 cs.
Antwerp, 100 bxs.
Bombay, 36
B. Ayres, 123 pks.
Calcutta, 157
Copen'hagen, 150
Corinto, 1
Delagoa Bay, 616
Dunedin, 1 tnk. 2 17
Dunkirk, 1,536
Durban, 275 dms. 20 kgs. 1,122 bxs.
E. London, 170
Elmina, 235
Galatz, 46
Genoa, 10 19 pks.
Gibraltar, 600 bxs.
Gd. Bassam, 50
Hamburg, 10 70
Iquitos, 127
Jamaica, 440
Karachi, 97
Kingston, 12 985
Lagos, 760
Lahou, 200
Lanzarote, 1,083
Limon, 2
Madras, 50
Matadi, 2,002
Melilla, 3 125
Montreal, 50

Soap—
Mossel Bay, 12 cs.
N. Orleans, 33 bdls.
Para, 6
P. Elizabeth, 407 bxs.
Rangoon, 285
Rotterdam, 700
San Juhan, 10
Varna, 157
Valparaiso, 80 150 22 dms.

Soap Extract—
Delagoa Bay, 10 pks.

Soap Powder—
Antwerp, 100 bxs.

Soda Ash—
Adelaide, 170 cks.
Ancona, 10 400 bgs.
Brisbane, 54
Calcutta, 250
Durban, 392 kgs.
Havana, 8
Hiogo, 4,700
Kingston, 20
Lisbon, 21
Mazatlan, 18
Melbourne, 116
M. Video, 100
Montreal, 1,010
Rio de Jan., 50 brls.
Salonica, 60
Santos, 150
Shanghai, 2,637 672
Smyrna, 30
Sydney, 180
Talcahuano, 10
Tientsin, 687 1,680
Valparaiso, 40
Yokohama, 650

Sodium Arseniate—
Port Elizabeth, 25 dms.

Sodium Bicarbonate—
Adelaide, 280 pks.
Alexandria, 50 cks.
Ancona, 59 kgs.
Bilbao, 55
Bourgas, 42
Calcutta, 250
Cape Town, 20
Catania, 30 bgs.
Durban, 40
Galatz, 26 dms.
Hiogo, 2,500
Launceston, 20 kgs.
Marseilles, 7
Melbourne, 50
Montreal, 10 130
Rio de Jan., 8
Seville, 75
Shanghai, 168
Sydney, 60
Talcahuano, 6
Vera Cruz, 25
Yokohama, 500 500

Soda Crystals—
Adelaide, 16 cks.
Argentine, 7 kgs.
B. Ayres, 712
Cape Town, 25
Durban, 75
Hiogo, 75
Kingston, 20
Malta, 50 brls.
M. Video, 100
Philadelphia, 56
Port Said, 25
Valparaiso, 500 dms. 845

Sodium Prussiate—
Montreal, 26 cks.

Sodium Silicate—
Braila, 50 cks.
Callao, 2
Dunedin, 10 cs.
Genoa, 407 bgs.
Malaga, 16
Oporto, 36
Santos, 7

Sodium Sulphide—
Barcelona, 5 t. £38
Sydney, 10 3 c. 79

Stearine—
Limon, 10 bgs.

Sulphur—
Calabar, 2 c. £2
Maranham, 2 t. 12 26
Boston, 100 425
Las Palmas, 2 5 31
Christiania, 80 395
Parahyba, 9 9

Sulphuric Acid—
Colombo, 10 c. £5

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Superphosphate of Bone—
Las Palmas, 2 t. £7

Superphosphate of Lime—
Gd. Canary, 1 t. 4 c. £3

Superphosphates—
Seville, 1,400 t. 2 c. £3,138
Las Palmas, 9 19 23
Teneriffe, 23 11 59
Arucas, 7 17 20
Gd. Canary, 17 2 60
P. Cruz, 2 6
Valencia, 118 17 298
Coruuna, 14 18 41
Alicante, 49 10 112
Lisbon, 1,455 6 3,922
Malaga, 148 10 367
Almeria, 197 15 488

Tallow—
Braila, 59 brls.
Karachi, 4 cs.

Tartaric Acid—
Maranham, 1 kg. £6

Turpentine—
Lagos, 25 dms.

White Lead—
Port. W. Africa, 66 kgs.

Zinc Chloride—
Bilbao, 7 t. £115
Bombay, 4 10 c. 56

Zinc Muriate—
Bombay, 3 t. 5 c. £36
H. Kong, 1 1 14
Lisbon, 17 11

MANCHESTER.

Period ending August 21

Bleaching Powder—
Aleppo, 4 brls.

Caustic Soda—
Sousse, 5 dms.
Tunis, 3

Chemicals (*otherwise undescribed*)
Treport, 31 t.

Coal Products—
Aniline Salt
Philadelphia, 12 crts.
Naphthylamine
Treport, 30 cks.
Tar
Philadelphia, 42 cks.

Copper Sulphate—
Beyrout, 4 brls.

Dyestuffs—
Tanners' Extract
Hamburg, 5 cks.

Glue—
Rotterdam, 12 cks.

Iron Acetate—
Bombay, 3 brls.

Iron Nitrate—
Bombay, 8 cs.

Linseed Oil—
Beyrout, 23 brls.

Manure—
Treport, 51 bgs.

Salt—
Montreal, 3,200 sks.
Quebec, 200
St. John, N.B., 4,200

Soda Crystals—
Aleppo, 8 brls.
Limassol, 37
Sfax, 10 bgs.
Sousse, 24

Sodium Bicarbonate—
Sousse, 10 kgs.

Sodium Prussiate—
Philadelphia, 20 cks.

Sodium Silicate—
Tunis, 3 cks.

Zinc Chloride—
Bombay, 10 cks.

GLASGOW.

Week ending August 22

Ammonium Carbonate—
Sweden, 17 c.
Christiania, 11 1 q.

Ammonium Phosphate—
U.S.A., 2 t.

Ammonium Sulphate—
Mauritius, 250 t. 6 c.
Cette, 498 2 2 q.

Caustic Soda—
Rangoon, 10 t. 3 c.

Chemicals (*otherwise undescribed*)
Auckland, £72
Genoa, 37

Coal Products—
Creosote Oil
Hamburg, 14 t. 11 c.
Pitch
Mauritius, £35
Canada, a qty.
Tar
Canada, a qty.

Dextrine—
Rangoon, £24

Dyestuffs—
Tanners' Extract
Genoa, £230

Fish Oil—
Belgium, £237

Glue—
Rangoon, 1 t. 9 c. 3 q.

Gelatine—
Canada, £148
P. Chalmers, 75

Infusorial Earth—
Rotterdam, 4 t. 19 c.

Iron Oxide—
Rotterdam, 2 t. 10 c.

Linseed Oil—
Christchurch, 4 t.
Hokitaka, 1 4 c.
Lyttelton, 16 1 q.
P. Said, 17 2
Rangoon, 2 2 1
Wellington, 2 9 3
Wanganui, 17
Auckland, 1
Trieste, 6
Santiago, 3 5 2

Manure—
Christiania, 1 t. 17 c.

Olive Oil—
Dunedin, £60

Oxalic Acid—
Delagoa Bay, £59
Stockholm, 2 t. 37
Belgium,

Paraffin Wax—
Genoa, 10 t. 19 c.
Palermo, 6 9 2 q.
Canada, 17 18
Valparaiso, 19 2

Paraffin (Solid)—
Genoa, 3 t. 8 c. 3 q.
Leghorn, 7 7 2
Naples, 49 4
Rotterdam, 1

Potassium Bichromate—
Madras, 1 t. 5 c.
Dunedin, 16 3 q.

Potassium Cyanide—
Auckland, £2,583
Delagoa Bay, 855

Red Lead—
Lyttelton, 1 t. 6 c. 2 q.
Madras, 1 1
Wellington, N.Z., 11
Auckland, 2 11

Sheep Dip—
B. Ayres, £80

Soap—
Colombo, 1 t. 13 c.
Rangoon, 3 13 2 q.
Chefoo, 2 4 2

Soap Lyes—
New York, 19 t. 18 c. 1 q.

Sodium Bichromate—
Montreal, 3 t. 2 c. 2 q.

Sodium Carbonate—
Delagoa Bay, 5 t.

Sodium Cyanide—
Delagoa Bay, £3,200
Natal, 112

Sulphuric Acid—
Rangoon, a qty.

Tallow—
Belgium, 1 t. 4 c.

Turpentine—
Genoa, £236

White Lead—
Delagoa Bay, 2 t.
Lyttelton, 1
Auckland, 3 12 c.
B. Ayres, 3 2 1 q.
Dunedin, 5 6 1
Napier, 1
P. Chalmers, 2 2 3
Wellington, 4 14 2

HULL.

Week ending August 17.

Ammonium Sulphate—
Drontheim, 100 bgs.

Barytes—
Riga, 21 bgs.

Chemicals (*otherwise undescribed*)
Antwerp, 2 t.
Amsterdam, 19 cks.
Bergen, 6 cs.
Bombay, 291 35 dms.
Christiania, 15 pks.
10 dms.
Copenhagen, 4 20 btls.
Dunkirk, 10 720 slbs.
G'henburg, 100 bgs.
3 cs. 11 pks.
Helsingfors, 18 40 dms.
Hamburg, 48 17 90
103 bgs.
Riga, 60 kgs.
Stockholm, 399
St. Petersb'g, 14 cks.
Wyburg, 2 cs. 60 dms.

Coal Products—
Creosote Oil
Knysna, 575 t.
Pitch
Antwerp, 5 cks 29 bgs.
Tar
Amsterdam, 3 cks.
Christiania, 35
Christiansand, 3 brls.
Danzig, 10
Rotterdam, 14

Cottonseed Oil—
Amsterdam, 33 t. 3 c.
Bremen, 10 11
Christiania, 18
Christiansand, 7
Danzig, 13
Hamburg, 14
Rouen, 11
Stettin, 3 2

Linseed Oil— 60 dms.
Bombay,
Copenhagen, 3 t. 7 c.
Christiansund, 1 15
Christiania, 17
Christiansand, 1 14
Drontheim, 2 2
Hamburg, 7
Karachi, 2
Rotterdam, 7
Shanghai, 10

Manure—
Bremen, 344 bgs.
Hamburg, 2,200
Riga, 10,580

Molasses—
Bergen, 35 brls.

Phosphate—
Christiania, 49 t. 5 c.
Gothenburg, 250
Raumo, 250
Stockholm, 300

Starch—
Antwerp, 23 cks.

Tallow—
Bremen, 30 cks.
Drontheim, 50 tres.

Turpentine—
Antwerp, 8 cks.
Christiania, 3
Hamburg, 11
Rotterdam, 16
Stockholm, 3 90 dms.
Bombay,
Copenhagen, 5
Karachi, 5

TYNE.

Week ending August 17

Alum—
Montreal, 31 t. 6 c. 30 lb

Antimony (Regulus)—
Rotterdam, 3 t. 4 c. 14 lb.
Hamburg, 5

Barium Binoxide—
Hamburg, 28 t. 18 c. 3 q. 16 lb.

Bleaching Powder—
Berg., Trond., 1 t. 4 c. 3 q. 20 lb.
Copenhagen, 2 11 1 8
Amsterdam, 10 2 2 11
Bergen, 5 8 1 12
Rotterdam, 5 11 3 15
Gothenburg, 50 8 4
Gefle, 1 2 14

Caustic Soda—
Berg., Trond., 36 t. 19 c. 22 lb.
Genoa, 24 3 2 q.
Gothenburg, 15 1 3 4
Gefle, 10 3 14
Christiania, 4 7 6

Chemicals (*otherwise undescribed*)
Bergen, a qty.
Stavanger, ,,

Linseed Oil—
Labrador, 3 c. 2 q. 16 lb.

Litharge—
Gefle, 6 t. 2 q. 14 lb.
Hamburg, 2 6 c. 3 13

Manure—
Leghorn, 10 t. 2 c. 19 lb.

Mineral Wax—
Berg., Trond., 10 t.

Red Lead—
Berg. Trond., 2 t. 1 c. 15 lb.
Copenhagen, 19 3 q. 27
Rotterdam, 1 16 3 23
Gothenburg, 9 9 3 2
Gefle, 2 5 26
Christiania, 4 17 3 3
Berg., Stav'er, 3 13 1 14
Hamburg, 1 13 26

Salt—
Montreal, 1 c. 7 lb.

Soap—
Berg., Trond., 2 t. 13 c. 3 q. 20 lb.
Berg., Stav'er, 2 13 3 10
Montreal, 4 19 1 13

Soda—
Christiania, 16 t. 10 c. 1 q. 11 lb.
Berg., Stav'er, 10
Berg., Trond., 20

Soda Ash—
Amsterdam, 4 t. 15 c. 3 q. 27 lb.
Rotterdam, 5 9 1 3

Soda Crystals—
Rotterdam, 6 t. 5 c. 2 q.

Sodium Sulphide—
Genoa, 12 t. 1 c. 1 q.
Naples, 5 3 1 4 lb.
Gothenburg, 5 2 24
Gefle, 15 8 4

Sulphur—
Gothenburg, 65 t.
Gefle, 25

White Lead—
Copenhagen, 5 t. 16 c. 1 q. 20 lb.
Gefle, 10 5
Montreal, 126 7 7

GOOLE.

Week ending August 17

Ammonium Sulphate—
Hamburg, 40 t.

Chemicals (*otherwise undescribed*)
Boulogne, 25 cs.
Hamburg, 120 25 cks.

Coal Products (*otherwise undes.*)—
Boulogne, 143 cks.
Hamburg, 49

Colours—
Boulogne, 12 cks. 10 dms. 31 cs.

GRIMSBY.

Week ending August 14.

Chalk—
Hamburg, 12 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 5 kgs.
Malmo, 10 cs.
Rotterdam, 3 cks. 12 brls.

Coal Products (*otherwise undes.*)—
Dieppe, 42 brls.

Colours—
Dieppe, 20 cs.

Dyestuffs (*otherwise undescribed*)—
Malmo, 1 cs.
Rotterdam, 1 ck.
Dieppe, 2 pks.

Manure—
Hamburg, 267 bgs.

Soap—
Hamburg, 62 cs.

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PRICES CURRENT.

FRIDAY, August 30, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	31	10	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	40	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native). 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1⅝
Benzol, 90's	per gallon	0	0	8¼
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¼
,, (filtered for Lucigen light)	,,	0	0	2¾
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	6
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	78	15	0
,, Sulphate	,,	26	15	0
,, Oxide (copper scales)	,,	66	0	0
Glycerine (crude), 80%	,,	30	10	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	10	0
,, Litharge Flake (ex ship)	,,	22	10	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	29	0	0
Linseed	,,	23	5	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	5	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8¼
,, Hydrate (Caustic Potash) 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7½
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	24	0	0
,, Borate (Borax), Crystals	,, ,,	15	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.)	nett per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	0
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3¾
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	10	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	170	0	0
Zinc (Spelter)	,,	22	0	0
,, Chloride (solution 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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CURRENT TOPICS.

WORKMEN'S COMPENSATION.

THE Home Office report on proceedings taken under the Workmen's Compensation Acts of 1897 and 1900, and the Employers' Liability Act of 1880, during the year 1906 has now been issued. The information contained in the report is not complete, as neither the Workmen's Compensation Acts nor the Employers' Liability Act contain any provision for the making of returns to show the working of the systems of compensation which they established, and the only sources from which official statistics can be obtained, while supplying much valuable information, leave untouched the great body of cases of compensation to workmen. In the majority of cases, compensation is settled by agreement, no memorandum is registered, and therefore no official information is available.

The number of cases under the Workmen's Compensation Acts actually dealt with during the year in England and Wales by County Court judges and County Court arbitrators was 1,718; of these 1,404 were decided by judges, and 74 by a special arbitrator; 240 cases were settled by acceptance of money paid into court. In addition to the cases actually dealt with by County Court judges and County Court arbitrators, there were 814 cases which were either withdrawn, settled out of court, or otherwise disposed of in such a way as not to enable the officials of the Court to state definitely the results, making the total altogether of cases taken into court 2,552. From the time of the Acts coming into operation there has been a gradual increase in the number of cases—from 1,347 in 1899 to 2,532 in 1906.

Of the claims for compensation finally settled in 1906 within the cognisance of the courts, the decision in 1,179 cases was in favour of the applicant, and in 245 in favour of the respondent. The proportion of cases in which the applicant was successful was 83%, as compared with 82% in 1905 and 1904, and 84% in 1903. In 554 cases the compensation was awarded on account of death, and in all except one of them the deceased had left dependants. The number of cases in which compensation was awarded on account of death, and the total and average awards, were respectively as follows: 553, £105,454., £190. 13s. 11d. Since 1899 there has been a gradual increase, the figures in that year being—219, £37,904., £173. 1s. 7d. With regard to the grants of compensation for injury, there were 124 cases in which the compensation is returned as consisting of a lump sum, and 501 in which a weekly sum was assigned. In 17 of the cases in which a lump sum was paid the plaintiff accepted money paid into court. In the majority of the remainder a lump sum appears to have been awarded by consent of the parties. The average was £36. 3s. 11d. For cases of injury the average of the weekly sums assigned was—for total incapacity 11s. 6d., and for partial incapacity 9s. 10d.

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A table gives the number of cases in which memoranda were registered in County Courts, and shows which cases were settled by agreement, which by committees representative of employers and employed, and which by an agreed arbitrator. The totals under these three heads were—by agreement 5,096, by committee 68, and by arbitrator 7; the corresponding figures for 1905 being—4,244, 62, and 11. The gross total, 5,171, shows a considerable increase on the figures for previous years—1,636 in 1901, 2,161 in 1902, 2,985 in 1903, 3,625 in 1904, 4,317 in 1905—but it still represents only a small proportion of the agreements under the Acts. The average compensation to dependants awarded in case of death and the average weekly payments awarded in case of incapacity, in cases of which memoranda have been registered under the Acts, were respectively £167. 9s. 7d. and 13s. 3d. The number of cases of incapacity in which the memorandum registered was for a lump sum and not a weekly payment was 1,564, as against 2,229 cases in which a weekly payment was agreed upon.

Under the Employers' Liability Act the total number of actions brought in 1906 was 476, against 481 in the previous year and 688 in 1897. The amount of damages awarded was £9,341., compared with £15,114. in 1897. The operation of the Workmen's Compensation Acts, it will be noticed, has had the effect of greatly diminishing the litigation under the Employers' Liability Act. The average amount of solicitors' costs was £23. 14s. 10d. under the Employers' Liability Act, and £13. 7s. 1d. under the Workmen's Compensation Acts.

The number of cases under the Workmen's Compensation Acts carried to the Court of Appeal in England was 57, or just over 2% of the cases that came before the County Courts. This is a decrease as compared with the figure for 1905 (97), which, however, showed a considerable increase as compared with previous years, the figures being 61 in 1901, 59 in 1902, 38 in 1903, and 34 in 1904.

During 1906 the number of cases taken into court under the Workmen's Compensation Acts in Scotland was 370, or 82.7 per million of population. The corresponding figure for England was 77.8 per million. On the other hand, under the Employers' Liability Act the amount of litigation still remains greater in Scotland, England having 476 cases or 14.6 cases per million of population, while Scotland has 155 or 34.7 per million of population. The average amount of compensation paid during 1906 in Scotland in cases of death where dependants were left was (*a*) as regards cases decided in the Sheriffs' Courts, £171. 15s. 10d.; (*b*) as regards cases in which memoranda were registered, £189. 10s. 2d. In cases of incapacity the corresponding figures were: (*i*) where compensation was a lump sum, £8. 7s. 5d. and £31. 12s. 9d. respectively; (*ii*) where it was a weekly payment, 10s. 10d. and 13s. 2d. respectively.

In Ireland the number of cases under the three Acts was 274, the average amount of compensation being—in cases of death where dependants were left, (*a*) as regards cases decided in the County Courts, £130. 14s. 9d.; (*b*) as regards cases in which memoranda were registered, £75. 13s. 5d. In cases of incapacity the corresponding figures were: (*i*) where compensation was a lump sum, £20. 12s. 9d. and £68. 18s. 5d. respectively; (*ii*) where it was a weekly payment, 9s. 3d. and 10s. 11d. respectively.

It is satisfactory to note that not more than 29% of the accidents occurring in England and Wales were taken before the Courts. The number of deaths from accidents in 1906 was 2,103, and only 636 cases came before the Courts. As regards claims for injury, there are no official figures of the number of persons injured whose injuries disable them for work for more than a fortnight, and the percentage of cases litigated cannot therefore be given. From the unofficial figures, however, which are available for certain industries, it seems probable that the number of cases taken into Court is less than 1% of the total number in which compensation is payable.

Taking the Board of Trade returns as to the numbers employed, and the average weekly earnings, the amount paid as compensation in 1906 works out at about 10s. 7d. per £100. of wages paid.

NITRATE OF SODA.

The August shipments to Europe were 85,200 tons, and the quantity "loading" on 1st inst. was 119,000 tons, against 84,332 and 152,000 tons respectively last year. The discrepancy between these figures and recent private cable estimates of 95,000 and 90,000 tons, respectively shipments and loadings, is of no importance, as the clearance of a few cargoes at the minor ports may have been overlooked, as frequently happens. The most interesting feature is the despatch of a steamer cargo of 6,500 tons to Egypt, already referred to in these columns. Last month's European deliveries having been 43,000 tons, against 50,120 tons in August, 1906, the "visible" supply comes out at 385,390 tons, compared with 363,370 tons a year ago. Stocks at ports are 138,940 tons, against 79,510 tons last year. The market in all positions is dull, but nominally firm, with a complete absence of business, the price on the West Coast for autumn shipment being about 4d. per quintal lower than at the corresponding date in 1906.

It might reasonably be inferred from the official statistics quoted in our last issue that the potential output of nitrate of soda in Chili is already ample, inasmuch as temporary scarcity of labour alone prevents the production of a million tons per annum more than the world actually consumes; this without taking into account new "oficinas" now building, with a collective capacity of many hundreds of thousands of tons. The Chilian Government, however, thinks otherwise, and it has decided to further foster the development of the industry by establishing a Mortgage Bank for the purpose of making advances to new producers. The recent attempt made in London to enlist British capital in the debentures of a Chilian nitrate company is said to have met with little success, and it remains to be seen whether a different result will be obtainable in Chili, where money is scarce at the present time.

It is interesting to note that, according to our French contemporary, *L'Engrais*, Norway alone is expected to produce this year 25,000 tons of artificial nitrate, 100,000 tons in 1910, and 200,000 tons in 1915. We quote this forecast with all due reserve.

One of the periodical spurts is taking place in nitrate shares, in anticipation of the magnificent dividends about to be declared by a few of the more favourably situated producing companies. *Vogue la galère!*

NITRATE.—As we go to press, advices report the August output in Chili as 160,960 tons, compared with 162,423 tons in the same month last year. Notwithstanding this remarkable result, stocks on the West Coast are still about 40,000 tons in excess of those at the corresponding date. Nitrate for early shipment is offered at 8s. 11½d. per quintal, f.o.b., against 9s. 4½d. at this time last year. The market is weak.

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FACTORY AND WORKSHOP ACT, 1901.

REGULATIONS FOR THE MANUFACTURE AND USE OF DINITROBENZOL AND ANILIN.

THE following draft Regulations have been issued by the Home Secretary, for the manufacture of dinitrobenzol and anilin and the use of dinitrobenzol in the manufacture of explosives :—

Whereas the manufacture of nitro- and amido-derivatives of benzene, and the manufacture of explosives with use of dinitrobenzol or dinitrotoluol, have been certified in pursuance of Section 79 of the Factory and Workshop Act, 1901, to be dangerous ;

I hereby, in pursuance of the powers conferred on me by that Act, make the following Regulations, and direct that they shall apply to all factories and workshops in which the said manufactures are carried on.

Definitions.

"Employed" means employed in any process mentioned in the Schedules.

"Surgeon" means the Certifying Factory Surgeon of the District or a duly qualified medical practitioner appointed by written certificate of the Chief Inspector of Factories, which appointment shall be subject to such conditions as may be specified in that certificate.

"Suspension" means suspension by written certificate in the Health Register, signed by the Surgeon, from employment in any process mentioned in the Schedules.

Duties.

It shall be the duty of the occupier to observe Part I. of these Regulations.

It shall be the duty of all persons employed to observe Part II. of these Regulations.

Part I.—Duties of Occupiers.

(1.) Every vessel containing any substance named in Schedules A or B shall, if steam is passed into or around it, or if the temperature of the contents be at or above the temperature of boiling water, be covered in such a way that no steam or vapour shall be discharged into the open air at a less height than twenty feet above the heads of the workers.

In every room in which fumes from any substance named in Schedules A or B are evolved in the process of manufacture and are not removed as above, adequate through ventilation shall be maintained by a fan or other mechanical means.

(2.) No substance named in the Schedules shall be broken by hand in a crystallising pan, nor shall any liquor containing it be agitated by hand, except by means of an implement at least 6 feet long.

(3.) No substance named in the Schedules shall be crushed, ground, or mixed in the crystalline condition, and no cartridge filling shall be done, except with an efficient exhaust draught so arranged as to carry away the dust as near as possible to the point of origin.

(4.) Cartridges shall not be filled except by means of a suitable scoop.

(5.) Every drying stove shall be efficiently ventilated to the outside air in such manner that hot air from the stove shall not be drawn into any workroom.

No person shall be allowed to enter a stove to draw it until a free current of air has been passed through it.

(6.) A Health Register, containing the names of all persons employed, shall be kept in a form approved by the Chief Inspector of Factories.

(7.) No person shall be newly employed for more than a fortnight without a certificate of fitness granted after examination by the Surgeon by signed entry in the Health Register.

(8.) Every person employed shall be examined by the Surgeon once in each calendar month (or at such other intervals as may be prescribed in writing by the Chief Inspector of Factories) on a date of which due notice shall be given to all concerned.

(9.) The Surgeon shall have power of suspension as regards all persons employed, and no person after suspension shall be employed without written sanction from the Surgeon entered in the Health Register.

(10.) There shall be provided and maintained for the use of all persons employed—

(*a*) suitable overalls which shall be collected at the end of every day's work, and washed or renewed at least once every week ;

(*b*) a suitable meal room, separate from any room in which a process mentioned in the Schedules is carried on, unless the works are closed during meal hours ;

(*c*) a suitable cloakroom for clothing put off during working hours ;

(*d*) a suitable place, separate from the cloakroom and meal room, for the storage of the overalls ;

And for the use of all persons handling substances named in the Schedules :—

(*e*) india-rubber gloves, which shall be collected, examined, and cleansed at the close of the day's work, and shall be repaired or renewed when defective, or other equivalent protection for the hands against contact ;

And for the use of all persons employed in processes mentioned in Schedule A :—

(*f*) clogs or other suitable protective footwear.

(11.) There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed :—

A lavatory under cover, with a sufficient supply of clean towels, renewed daily, and of soap and nail brushes, and with either :—

(*a*) a trough with a smooth impervious surface, fitted with a waste pipe without plug, and of such length as to allow at least two feet for every five such persons, and having a constant supply of warm water from taps or jets above the trough at intervals of not more than two feet ; or

(*b*) at least one lavatory basin for every five such persons, fitted with a waste pipe and plug or placed in a trough having a waste pipe, and having either a constant supply of hot and cold water or warm water laid on, or (if a constant supply of heated water be not reasonably practicable) a constant supply of cold water laid on and a supply of hot water always at hand when required for use by persons employed.

And for the use of all persons employed in processes mentioned in Schedules A and B :—

sufficient and suitable bath accommodation (douche or other), with hot and cold water laid on and a sufficient supply of soap and towels.

(12.) No person shall be allowed to introduce, keep, prepare, or partake of any food, drink, or tobacco in any room in which a process mentioned in the Schedules is carried on.

Part II.—Duties of Persons Employed.

(13.) Every person employed shall :—

(*a*) present himself at the appointed time for examination by the Surgeon as provided in Regulation 8 ;

(*b*) wear the overalls provided under Regulation 10 (*a*), and deposit such overalls, and clothing put off during working hours, in the places provided under Regulation 10 (*c*) and (*d*) ;

(*c*) use the protective appliances supplied in respect of any process in which he is engaged ;

(*d*) carefully clean the hands before partaking of any food or leaving the premises ;

(*e*) take a bath at the factory at least once a week, and when the materials mentioned in the Schedules have been spilt on the clothing so as to wet the skin.

Provided that (*e*) shall not apply to persons employed in processes mentioned in Schedule C.

(14.) No person employed shall :—

(*a*) after suspension, work in any process mentioned in the Schedules without written sanction from the Surgeon entered in the Health Register ;

(*b*) introduce, keep, prepare, or partake of any food, drink, or tobacco, in any room in which a process mentioned in the Schedules is carried on ;

(*c*) break by hand in a crystallising pan any substance named in the Schedules, or agitate any liquor containing it by hand, except by means of an implement at least 6 feet long ;

(*d*) interfere in any way, without the concurrence of the occupier or manager, with the means and appliances provided for the removal of the fumes and dust, and for the carrying out of these Regulations.

Schedules.

(A) Processes in the manufacture of :—Nitrobenzol, Nitrotoluol, Dinitrobenzol, Dinitrotoluol, Trinitrotoluol, Paranitrochlorbenzol.

(B) Processes in the manufacture of :—Anilin oil, Anilin hydrochloride.

(C) Any process in the manufacture of explosives with use of dinitrobenzol or dinitrotoluol.

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ALCOHOL FOR INDUSTRIAL PURPOSES.

THE annual report of the Commissioners of Inland Revenue contains the following references to the new regulations with regard to industrial alcohol, which came in force on October 1st, 1906.

(1.) A new variety of methylated spirit, to which the name of industrial methylated spirit was given, was authorised for use solely in arts and manufactures. It takes the place of that previously known as ordinary methylated spirit, and is required to contain only half the proportion of the denaturant which was present in the ordinary spirit. The relative compositions are :—

Industrial methylated spirit—alcohol, 95 parts, wood naphtha, 5 parts; ordinary methylated spirit—alcohol, 90 parts, wood naphtha, 10 parts.

The composition of the methylated spirit allowed to be sold to the public generally for domestic and other purposes has not been altered; this spirit is known as mineralised methylated spirit, and contains the same proportion of wood naphtha as was required in the ordinary methylated spirit above referred to, with the addition of a small proportion of mineral naphtha.

(2.) The payment was authorised of an allowance on all spirits used by an authorised methylator for making industrial methylated spirit, and on all spirits, except foreign methylic alcohol, received by any person for use in any art or manufacture under section 8 of the Finance Act, 1902. The allowance is the same as that which is paid upon plain British spirits exported—viz., 3d. per proof gallon, which is the estimated cost to the distiller of the revenue restrictions on the manufacture of spirits. It is paid in the one case direct to the authorised methylator, and in the other to the authorised user.

(3.) Foreign methylic alcohol may now be received and used under section 8 of the Finance Act, 1902, without payment of the differential duty payable on foreign spirits.

(4.) Under section 8 of the Finance Act, 1902, any person allowed to receive spirit in a pure state duty free for use in any art or manufacture was required to pay the expenses incurred in placing an officer in charge of his premises to supervise the use of the spirit. The Act of 1906 authorised relief from this payment unless special attendances of the officer to suit the convenience of the user are required.

(5.) Under the previous law the *maximum* quantity of methylated spirit which a licensed retailer could keep in stock was 50 gallons, and the *maximum* quantity he could sell at one time was 1 gallon. This limitation was repealed, and power was given to the Commissioners to fix the limit by regulation, which has been done by increasing them to 200 and 4 gallons respectively.

The effect of alterations (1) and (2) has been largely to reduce the initial cost of methylated spirit used for industrial purposes, and to provide for use by manufacturers and others a spirit purer than was previously available, and consequently better suited for many purposes for which spirit is required. There is good reason to believe that the industrial purposes are relatively few, of which the requirements in respect of alcohol cannot be satisfactorily met by the use of industrial methylated spirit, and in future it is probable that the cases which will require to be dealt with under the provisions of section 8 of the Finance Act, 1902, will not be numerous.

The purer character of the new variety of methylated spirit undoubtedly exposes the revenue to greater risk than was the case with ordinary methylated spirit. It was felt, however, that if users of industrial methylated spirit were not to be deprived of much of the benefit of the new arrangements it was necessary to avoid making the restrictions on its use too stringent; and accordingly applications for permission to receive such spirit, which have been very numerous, have been dealt with as liberally as possible, and the conditions which have been drawn up to govern generally the receipt and use of the spirit have been made as few and as simple as is consistent with adequate protection against abuse.

New Russian Albumen Factories.—The Ekaterinburg Town Council has decided to construct an albumen factory for the purpose of using the refuse of the town slaughterhouses, and the necessary funds have been set aside for it. It is expected that at an early date the towns of Perm and Tinnen will follow the example of Ekaterinburg. Hitherto the waste has been destroyed by fire, at considerable expense.

TIN MINING IN THE FEDERATED MALAY STATES.

THE following particulars of the tin mining industries of the Federated Malay States are taken from the annual report for 1906 of the Resident-General (Sir W. Taylor, K.C.M.G.).

The Senior Warden of Mines, in his report on the working of the Mines Department, states that the mining revenue derived from all sources was 10,588,824 dols., as compared with 9,689,501 dols. in 1905. Of the increase of 899,323 dols. the export duty on tin (10,036,796 dols.) is responsible for 787,169 dols., and premia on mining leases 102,049 dols.

This increased duty was collected from a smaller quantity than in the preceding year, the output for 1906 having receded to 816,786 pikuls, a decrease as compared with the output of 1905 of 39,874 pikuls. The decrease of 39,874 pikuls was made up of 1,540 pikuls of block tin and 38,333 pikuls of tin ore, the output of 816,786 pikuls having consisted of 306,748 pikuls of block tin and 510,038 pikuls of tin ore. The average local sterling value was £175. 12s. 3d. a ton, as compared with £138. 10s. 5d. in 1905.

While the area of mining land increased by 6,285 acres, and large profits were realised on the tin produced in 1906, the output in all four States shows a falling-off. In respect of Perak and Pahang an explanation of a satisfactory nature is forthcoming. In Negri Sembilan the outlook is not promising, and a decreased output appears not unlikely.

The Senior Warden is of opinion that the year 1906 was a satisfactory one for tin miners. Though the output decreased, the value of the tin produced increased by some 4,000,000 dols., and extensive building operations were going on at all the principal mining centres, mainly from the profits realised by the industry.—*Board of Trade Journal.*

THE ROUMANIAN PETROLEUM INDUSTRY.

ACCORDING to the *Roumania Economica* the amount of crude oil produced in Roumania during the first six months of 1907 was 562,451,000 kilogs. as compared with 409,511,000 kilogs. in the corresponding period of 1906.

The following table (reproduced from the *Board of Trade Journal*) shows the exports of petroleum from 1st January to 30th June in each of the years 1906 and 1907 :—

	First six months.	
	1906. Kilogs.	1907. Kilogs.
Petroleum, unrefined ..	12,732,126	19,818,557
,, refined	100,055,163	114,533,003
Benzine	34,026,089	49,433,345
Mineral oil	4,411,165	11,672,602
Total	151,224,543	195,457,507

Will.—The late Sir William Henry Perkin left estate valued at £78,611.

Liverpool Tropical Products Exhibition.—On Monday week, at a meeting of the committee of the Liverpool Tropical Products Exhibition, which will be opened next month during the visit of the Chambers of Commerce, Sir Alfred Jones spoke of the advantages which would accure to the trade of Liverpool and to that of the country and Empire if a permanent exhibition of this nature were established. He heard that it was the intention to establish a permanent exhibition in London, and therefore Liverpool could not be behindhand in this matter. Mr. Haldane had arranged to open the exhibition on one of the days. Sir Alfred Jones strongly advocated the erection of mills and factories in Liverpool, thereby providing means of dealing with the material imported. If this were done the trade of the port would not have the same chance of shifting as at present. Mr. John Holt also spoke of the necessity for more enterprise on the part of the millers of Liverpool. There was no reason why there should not be ground-nut mills in Liverpool, the oil being used for margarine purposes. If they had the milling enterprise in Liverpool and the necessary capital, they would be able to compete with the margarine industry in Holland. These views were endorsed by Sir Alfred Jones, who said he would be glad to take one-fourth part in any scheme which the merchants of Liverpool might start in ground-nut mills.

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INDUSTRIAL POISONING.

THE subject of industrial poisoning is dealt with at length in the annual report of the Chief Inspector of Factories and Workshops for 1906. We give below an abstract of the remarks of the Superintending Inspectors for the various Divisions.

SOUTHERN DIVISION.

The number of cases of lead poisoning reported in 1906 was 278; mercurial poisoning, 6; phosphorus poisoning, 1; arsenical poisoning, 2.

Lead Poisoning.—Mr. Pendock (Bristol).—Serious cases occurred at a lead works which recently opened for the purpose of smelting and refining the residue from previous workings. Safeguards are being considered to prevent the escape of fumes from the slag hole; at present, owing to a percentage of iron ore being used in the furnace to assist the process, the acidity of which gradually enlarges the slag orifice, the fumes are emitted in considerable quantity towards the end of every fortnight's run. If this enlargement cannot be checked, it will be necessary to provide some means for exhaust ventilation connected with a fan. Another probable cause for the undue escape of fumes is to be found in a certain amount of back pressure set up in the cupola through choking of the outlet flues, which appear to be smaller in area and shorter in length than is the practice of construction elsewhere; the actual dimensions being five feet six inches by four feet three inches, and 300 yards in length. A deposit of ten inches on the floor of the flue reduces its capacity by 25% or more, and this is a matter to which the manager is giving consideration. It is intended to instal warm shower baths instead of the present hip baths.

Mercurial Poisoning.—Mr. Younger (Bristol).—I investigated (in the South London District) a case of slight mercurial poisoning at a factory at which electrical meters were manufactured. The work to which the poisoning was attributed was the filling of meter baths with metallic mercury. The precautions taken at this factory, at which mercury was also used for calibrating electrolytic meters, &c., appeared to be adequate. The ventilation and washing conveniences were satisfactory, a mess room was provided, and the taking of meals in work rooms prohibited, and each man was furnished with a tooth-brush and mouth wash consisting of a solution of chlorate of potash.

Mr. Gailey (South London).—Two slight cases of mercury poisoning were reported from a factory in which mercury is used in the manufacture of electrolytic meters, and another case was reported from a factory in which chemicals were manufactured.

Phosphorus Poisoning (Necrosis).—Mr. Pendock (Bristol).—The only case of necrosis was that of a man 56 years of age who had been employed practically all his life in match making with various firms. After serving for about 13 years in Ireland in the mixing and boxing departments he came back to this district, entering into the employ of a firm of match makers in a general labouring capacity. Here he met with an accident of trivial cause which broke his leg, and owing to the difficulty experienced in setting it he underwent various operations and treatment at the infirmary until the whole of the leg had been amputated. Thus crippled and impoverished, he again asked work of the firm; and, as he could only move about with difficulty, he was given what was considered an easy job for him at one of the dipping machines. His duty was to sit up close to the revolving dipping slab and pick from it by means of a long toasting fork all the stray sprints that found their way into the paste. The dipping slab was covered with a large hood connected with a powerful exhaust fan, as also was the adjoining pan of composition from which the slab was replenished. The front part of the large hood consisted of a glazed window, and in order that he could sit rather closer to the machine and so avoid the trolleys and other traffic continually passing behind him, a notch had been cut in the window to admit of a little more freedom for his arm. As the patient sat so closely to the machine, and so continuously, he did not get that temporary relief and freedom from the fumes which an ordinary and more active attendant would have got. Moreover, as he was a man who could take no exercise except the brief walk to his house, his general health became so impaired that he might be characterised as a "bad subject." He also admits being an inveterate chewer of tobacco. The case is described as one of moderate severity only, however, and it is hoped that further progress of the disease will soon be arrested.

Carbon Monoxide Poisoning.—The Inspectors have been under instructions concerning the danger of carbon monoxide poisoning—increased by the growing use of producer gas, Mond gas, etc. They have issued the Home Office Memorandum upon the subject where necessary, and have endeavoured to obtain the adoption of the precautions described. The only reports of poisoning received are quoted below.

Mr. Ireland (Norwich).—One case of carbon monoxide poisoning was due to an escape of water gas in an engine house in which the power was derived from Dowson gas. A water seal has been provided to prevent a recurrence, and I advised the provision of an oxygen cylinder.

Mr. Gailey (South London).—Respecting a fatal accident which occurred to a night watchman by his falling down a shaft leading to a tunnel in which a sewer was being constructed, the medical evidence showed that the deceased had been poisoned by carbonic oxide and carbonic acid. These oxides of carbon in all probability made him giddy and caused him to stumble, and they appear to have been given off by the coke fire which the deceased had placed in front of his hut.

Mr. Pendock (Bristol).—One fatal case of poisoning by carbon monoxide occurred to a man employed in feeding the blast furnace at an iron works, on Sunday morning at a period when he happened to be practically alone, and, although a fairly experienced man, he is supposed to have used some indiscretion in connection with his work. He probably either failed to fire the gases after charging the furnace or neglected to get to the windward side of the furnace opening while the gases were still escaping. He was found unconscious, although within a short time previously he had been seen in full activity; all artificial means that could be resorted to were unavailing. A copy of the memorandum on water gas has been sent to the firm, and every attention is promised by them to prevent recurrence of such a fatality.

(To be continued.)

A REMARKABLE OIL PIPE LINE.—The Southern Pacific Company has contracted for the construction of an oil pipe line which, according to the *Iron Age*, has several novel characteristics. The pipe is for carrying a very heavy and viscous oil from the Kern River (California) oil-fields to the sea board, a distance of 285 miles. The oil being exceedingly thick, it was found necessary to devise a method for causing it to flow through the pipe. Experiments were made on small sizes of pipe through which a mixture of oil and water was allowed to flow. By twisting the pipe a rotary motion was imparted to the fluid, and the water, being the heavier of the two liquids, surrounded the oil, and thereby reduced the co-efficient of friction. Another experiment, to determine the necessary twist to give to the pipe, was made by placing the mixture in a glass bottle which was then put into a lathe. By revolving it the *minimum* speed at which the water completely encompassed the oil was found. The pipe line as constructed is 8in. diameter, and it has six spiral indentations 0.125in. deep. The first section of 31 miles has been in operation for several months, and the complete length will require 23 pumping stations located along the line. The estimated capacity of the pipe is 23,000 barrels of heavy oil in 24 hours.

LAWES' CHEMICAL MANURE CO.—Mr. E. G. Cubitt, who presided at the annual meeting of shareholders on Tuesday, said they were putting aside £1,000. to a reserve fund, and during the year they had paid off £25,000. of the redeemable debentures. The consequential shrinking in the capital of the company was met to a certain extent by the reserve fund, which was invested in the business. A higher dividend would be paid. There had been during the year a rise in the prices they obtained, but, on the other hand, there had been an unprecedentedly sharp rise in the prices of raw materials. Arsenic entered largely into the composition of some of their dips. When he first joined the Board arsenic could be bought for between £11. and £12. a ton, but lately the price had been somewhere round £35. The price of sheep dips, however, instead of rising, had a tendency to go the other way. The lease of the old works at Deptford, lately used as a depot, expired in 1911, but neighbouring landholders were willing to take the site at once, and the directors thought it advisable to accept the offer. They hoped that would effect a saving in expenses. At Barking the company had more land than it required, and a small portion had been sold. For some of the minor machinery electric power had been installed. That would undoubtedly increase the efficiency and convenience of the works, and he hoped it would result in a saving of working cost. The Australian market was failing them, as Australia was making its own chemical manure, and they would have to find a fresh market for some of their stuff.—The report was adopted, and a dividend of 7s. 6d. upon the ordinary shares was declared.

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Analytical Notes.

THE CONSTITUTION OF AMMONIACAL LIQUORS.*

(*Concluded from p.* 197.)

MR. LINDER'S MEMORANDUM.

Appendix.

Estimation of CO_2, H_2S, and HCy in Saturator Gases.

A. *Gases Hot.—Apparatus :* Litre separating cylinder, jacketed with flannel, provided at end A with wide-bore stopcock, at B with ground-in stopper; actual volume determined by water measurement. Fill the cylinder with water and place vertically; connect upper end A to flue by wide-bore tubing; remove the stopper and run out the water. When heated to flue temperature by issuing gases, close B and cool the cylinder cautiously with water, keeping A open. Steam will thus be condensed and more gases drawn in, the cylinder finally containing 20 to 30 c.c. of condensed liquor in contact with cold permanent gases at flue pressure.

Analysis of Sample.—Admit to the cylinder 50 c.c. of 2.5 normal ammonia, shake thoroughly; open A and destroy the vacuum, then reshake with A closed, repeating the operation until air ceases to enter on opening the stopcock, showing that absorption is complete. Run the solution into 500 c.c. flask, wash out with distilled water, and make up to 500 c.c. Proceed as follows :—

(1.) *Carbonic Acid.*—50 c.c. of liquor, 250 c.c. water, and 10 c.c. of ammoniacal calcium chloride (25%) are heated in Erlenmeyer flask provided with Bunsen rubber valve to a temperature of 98° C. for 1 to 1½ hours—heating is best effected by partial immersion of the flask in a water bath, but if this be inconvenient, it is sufficient to allow steam to freely play on the bottom—it is not advisable to use a direct flame. Filter, wash three times with boiling water, boiling for a minute each time before decanting. Pierce the paper and wash back traces of adhering precipitate into the flask, dry the paper on a clock glass, incinerate as far as possible on platinum wire and drop the ash into the flask. Add 25 to 30 c.c. of water and a drop of methyl orange, then run in $\frac{N}{2}$ HCl in slight excess with constant shaking,† and bring back with $\frac{N}{2}$ Na_2CO_3. Then,

1 c.c. $\frac{N}{2}$ HCl = 0.011 gram. CO_2 = 5.6 c.c. (0° C. 760 mm.).

(2.) *Sulphide* (H_2S).—As thiosulphate is never present in other than traces, the sulphide may be determined by direct titration with $\frac{N}{10}$ iodine in the usual way. It is more accurate to run the sulphide solution into slight excess of $\frac{N}{10}$ iodine acidified with sulphuric acid, and bring back with thiosulphate—starch indicator.

1 c.c. $\frac{N}{10}$ iodine = 0.0017 gram. H_2S = 1.12 c.c. (0° C. 760 mm.)

(3.) *Cyanide* (HCy).‡—As traces of thiocyanate are formed by interaction of dissolved oxygen on sulphide and cyanide, Feld's method of distillation with lead nitrate cannot be applied.

Proceed by polysulphide method as already described.

1 c.c. $\frac{N}{10}$ $AgNO_3$ = 0.0027 gram. HCy = 2.24 c.c. (0° C. 760 mm.)

Example :—Total volume of solution 500 c.c.

CO_2 .. .. 25 c.c. of the above required 9.8 $\frac{N}{2}$ HCl

= 9.8 × 0.011 × 20 = 2.156 grams.
= 9.8 × 5.6 × 20 = 1,098 c.c.

H_2S .. .. 25 c.c. of the above required 19.30 $\frac{N}{10}$ I

= 19.3 × 0.0017 × 20 = 0.6562 grms.
= 19.3 × 1.12 × 20 = 432 c.c.

HCy .. .. 50 c.c. of the above required 5.07 $\frac{N}{10}$ $AgNO_3$

= 5.07 × 0.0027 × 10 = 137 gram.
= 5.07 × 2.24 × 10 = 114 c.c.

Whence,

CO_2	= 1098	= 66.8 per 100 vols. of dry saturator gases.
H_2S	= 432	= 26.3
HCY	= 114	= 6.9
	1,644	100.0

A. *Cold Gases.*—This method is applicable for gases that deposit no appreciable amount of moisture on cooling to air temperature. It has been successfully applied to gases at 80° F.

Apparatus.—For estimation of CO_2 + HCy, H_2S, and residual nitrogen, a Bunte burette, graduated in c.c. throughout, with levelling cylinder containing distilled water at approximately air temperature :—

(1.) The volume of gas is rapidly read off at air temperature and pressure, water is then removed from below the gas by gentle suction, leaving the burette full of gas at reduced pressure.

Volume of gas taken :—100 c.c. moist, at air temperature and pressure = CO_2 + HCy + H_2S + nitrogen.

(2.) Admit 10 c.c. of 2.5 normal potash (or ammonia) followed by distilled water.

Contraction = CO_2 + HCy + H_2S.

Residual gas taken to be nitrogen.

(3.) Determine sulphide by the method described above.

1 c.c. $\frac{N}{10}$ iodine = 1.12 c.c. H_2S (0° C. 760 mm.).

Multiply by suitable factor to reduce volume to air temperature and pressure (moist), and reach the figure for CO_2 + HCy by difference.

For estimation of HCy use a litre cylinder, jacketed with felt or corrugated paper, as described above. Fill the cylinder with distilled water, admit gas from the flue by allowing the cylinder to rapidly empty and pass the gas through the cylinder for two to three minutes to allow of drainage; the temperature is meanwhile read off by inserting a thermometer through the open end; it should approximate to that of the atmosphere. Close the exit, then the stopcock at inlet end. Detach from flue and momentarily turn the stopcock to reduce the pressure to atmospheric. Admit 50 c.c. 2.5 normal ammonia and proceed as described in method A above. Make solution up to 250 c.c.

Analysis of Sample :—

(1.) H_2S - - - 25 c.c. is run into excess of $\frac{N}{10}$ iodine acidified with sulphuric acid and brought back with $\frac{N}{10}$ thiosulphate as described above.

1 c.c. $\frac{N}{10}$ iodine = 1.12 c.c. H_2S (0° C. 760 mm.).

(2.) HCy - - - 50 c.c. is treated with polysulphide, and the thiocyanate estimated as described above.

1 c.c. $\frac{N}{10}$ silver nitrate = 2.24 c.c. HCy (0° 760 mm.).

Calculation :—Reduce the total volume of gas collected to 0° C. 760 mm. and calculate the volumes of H_2S and HCy found to 100 volumes. Combine the various results as indicated.

THE ANALYSIS OF PRODUCER GAS FOR THE POWER ENGINEER.

BY H. PROCTOR SMITH, F.C.S.*

In the writer's opinion there is nearly always a gap between the results given by a chemist and the data required by an engineer to act upon the information given, and, as a rule, this gap can be filled much more easily by the chemist than by the engineer, and if it *were* filled by the mutual co-operation of the chemist and the engineer there is no doubt that valuable information would be acquired, and would eventually bring the chemist and the engineer to be recognised as main factors in helping to swell the profits of an industrial concern, and not as at present mere "non-producers" and a necessary nuisance.

This is illustrated in a very striking manner since the rapid advances which have been made in utilising producer gas as a motive-power in a gas engine.

In this instance we have a chemist who makes analyses of samples of the gas, and perhaps offers suggestions as to the reason for an increased percentage of carbon dioxide, or of hydrogen, and so forth, and who reports to the engineer the relative quantities of carbon dioxide, carbon monoxide, hydrogen, marsh gas, etc., but, as a rule, this is all.

Now, the engineer knows that he wants a gas with as large an amount of combustible as possible, and also knows that the gases, carbon monoxide, hydrogen, and marsh gas are combustible, but from looking at the mere percentages of these gases he cannot, as a rule, form much idea of the amount of horse-

* From the 43rd Annual Report on Alkali, etc., Works, by the Chief Inspector.

† Mr. Young informs me that time is saved if excess of acid (1 to 2 c.c. $\frac{N}{2}$) be run in at once and the solution heated to boiling to dissolve the precipitate: it is then cooled and brought back with half-normal alkali.

‡ In one case ferrocyanide was obtained in the test solution in addition to cyanide and thiocyanate; this was traced to interaction between cyanide, alkali absorbent added, and iron salts primed over from the saturator bath. The ferrocyanide formed was small in absolute amount, but large when calculated as a percentage figure on the total cyanogen present, and testing at the saturator exit had, in consequence, to be abandoned.

* In the *Chemical News*.

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power which this gas will develop in his engine, and the factors given below are such as will enable either the engineer or the chemist to rapidly convert the gas analysis into a heat analysis, and from that to a power analysis.

The power capable of being developed by a gas is a ratio of its heating value, and this value is in relation to the amounts of its constituent gases. An element when combining with oxygen evolves a certain definite amount of heat, and, if this change is brought about rapidly, also light, when the process is termed "combustion."

With the commoner elements—carbon and hydrogen—use is made of this reaction to generate heat, and the elements are termed *fuels*. Coal is a mineral consisting chiefly of carbon and hydrogen, and may be ignited and burnt in air with the generation of heat. Coal may also be partially burnt in a closed vessel termed a "gas producer," and converted into gas which may be burnt and converted into power apart from the vessel in which the gas is generated.

The amount of heat so generated is expressed in two chief units, viz. :—

British Thermal Unit (B.T.U.), which is the amount of heat required to raise 1 lb. of water 1° F. ;

Kilogramme Calorie, which is the amount of heat required to raise 1 kilogramme of water 1° C.

The water in each case being at its point of maximum density, 39.2° F. or 4° C.

The heating or calorific value of carbon is 14,544 B.T.U. ; that is to say, if 1 lb. of carbon was burnt in oxygen or air it would generate enough heat to raise 14,544 lbs. of water 1° F.

To consider now the combustible gases :—

	B.T.U. per lb.
Carbon monoxide	4,386
Hydrogen	61,524
Marsh gas	24,021

That is, the heat generated from the above gases in *parts by weight* ; but as we generally measure gas these figures require to be converted into the B.T.U. or calories which are developed by burning 1 cubic foot or 1 cubic metre of the gas.

Further, in burning all substances containing hydrogen the combustion produces water, and if, as is generally the case, the final temperature is above 212° F., that water is converted into vapour (steam) and passes off in the waste gases. Now, the conversion of water at 212° F. into steam at 212° F. absorbs a large amount of heat termed "latent heat," which can only be recovered by condensing the steam, and thus the *available* calorific value produced by burning hydrogen is lowered, and therefore in all compounds containing hydrogen we have a *total* and an *available* calorific value.

The following factors serve to convert any of the gases, hydrogen, carbon monoxide, or marsh gas, directly into terms either B.T.U.'s or calories :—

	B.T.U per cubic foot		Kilogrm. Calories per cubic metre.	
	Total.	Avai'able.	Total.	Available.
Carbon monoxide	3.419	3.419	30.43	30.43
Hydrogen	3.473	2.924	30.91	26.026
Marsh gas	11.278	10.133	100.38	90.225

To convert { Calories per cubic metre into B.T.U. per cubic foot multiply by 0.11235. / B.T.U. to calories multiply by 0.252. / Calories to B.T.U. multiply by 3.968.

To show how such a calculation may be worked, suppose we have a sample of Mond gas of the following composition :—

	Per cent.		B.T.U. per cubic foot. Total.	Actual
Carbon dioxide..	12.9 ×	—	Nil	Nil
Carbon monoxide	13.2 ×	3.419	45.14	45.14
Hydrogen	24.8 ×	3.473 or 2.924	86.13	72.51
Marsh gas	2.3 ×	11.278 or 10.133	25.94	23.30
Nitrogen	46.8 ×	—	Nil	Nil
	100.0		157.21	140.95

Thus, by a few very simple calculations it is possible to convert a chemical analysis into a heat analysis.

Then for power conversion :—

1 B.T.U. = 778 foot-lbs.

1 Horse-power = 33,000 foot-lbs.

Thus, the *theoretical* power analysis is merely a matter of proportion.

It must, however, be borne in mind that the theoretical and practical results, otherwise the efficiency of the best heat engine of this type, seldom exceeds 25 per cent., but to the gas-power engineer the calorific power rather than the chemical analysis of a gas is what is required.

Trade Notes.

THE SICILIAN SULPHUR INDUSTRY.—The British Consul at Palermo reports that the sulphur industry is now passing through another crisis, the Bank of Sicily having refused to continue making advances on Sulphur Deposit Notes except at three-fifths value instead of four-fifths, as it had hitherto been paying. The Bank has already advanced over £400,000. on such notes. "Owing to this," he continues, "some of the sulphur mines have had to stop working. Telegrams are being sent to Rome to bring pressure to bear on the Government to induce the bank to continue issuing advances. The matter is said to have been under consideration at the Council of Ministers, and an inspector has been sent to make an inquiry. The "Consorzio," which was instituted on the termination of the Anglo-Sicilian Company, collects all the sulphur produced, and the producers receive a certificate for the amount deposited, by which they obtain a part of the value represented. Advances on the value are made by the Bank, which allocated a sum of ten million lire for this purpose. The production is now in excess of the world's demand, owing to the amount of American sulphur produced from Louisiana. The Bank's advances have reached the limit of ten million lire, and only a portion of the sulphur has been sold.

ARTIFICIAL INDIGO.—The *Manchester Guardian* says :—"According to the statistics just published, Germany exported artificial indigo to the value of 31.6 million marks during the past year, against 25.7 million marks in 1905, 21.7 million in 1904, and 7.6 million in 1898. The largest importer of this product was Japan, taking 6.9 million marks. China imported it to the value of 5.3 million marks, the United States 4.5 million marks, Russia 3 million marks, Austria-Hungary 2.7 million marks, Great Britain 2.6 million marks, the other principal importers being Holland, France and Italy. During the past year there has been a slight improvement in the price of the artificial product, due chiefly to the agreement between the Badische Company and Meister, Lucius and Brüning. In 1895 Germany imported natural indigo to the value of 21.5 million marks ; in 1898 this had sunk to 8.3 million marks, whilst last year only 800,000 marks' worth was imported."

COTTONSEED OIL EXTRACTION.—The Acting British Consul at Savannah (Mr. A. Harkness) reports that he has received information from Atlanta, Georgia, to the effect that the State Chemist has completed a chemical demonstration in the analysis of cottonseed meal which it is thought will be of interest to dealers and farmers, as it bids fair to change greatly the present method of extracting oil from cottonseed. Instead of applying the usual tests of such experiments, that of using ether mixed with cottonseed meal, he applied carbon tetrachloride, which is much less expensive, and found upon analysis that the weight of the oil extracted by this process was greater than by ether, and far less costly. This question has been the subject of tests also by the State Chemist of Mississippi, who is said to have obtained similarly successful results and who is a supporter of the theory that by its use more oil will be extracted from the seed. It is estimated that under the present system, at least 10% of the oil is left in the meal, and as this oil is useless as a fertiliser, most of it is lost.

ROUMANIAN PETROLEUM.—The *Manchester Guardian* says :—The increasing importance of the Roumanian petroleum field is shown by the fact that 195,060 tons of petroleum were exported during the first half of the present year, against 151,316 tons during the corresponding period last year, and 85,835 tons during the first six months of 1905. The principal consumers were France, which took 61,823 tons ; England, 54,649 tons ; Germany, 30,598 tons ; Austria-Hungary, 10,483 tons ; India, 15,083 tons ; and Turkey, 14,101 tons. Of the total amount exported France took 31½% (against 33% in 1906, 65½% in 1905, and 22½% in 1904), England 23% (against 20% in 1906, 7½% in 1905, and 22½% in 1904), Germany 16% (against 16% in 1906, 14½% in 1905, and 20% in 1904), Italy 2½% (against 8% in 1906 and 7% in 1905), Turkey 7% (against 7½% in 1906, ½% in 1905, and 1½% in 1904), and Austria-Hungary 5½% (against 5% in 1906, 10½% in 1905, and 12½% in 1904).

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Continental Notes.

THE *Chemiker-Zeitung* for August 7 contains a description of an ingenious machine for moistening and mixing finely-ground tanning materials. The difficulty of accomplishing this object without causing the material to collect into lumps or balls is overcome by subjecting it to violent motion. The uniform blending of tanning matters is becoming more and more important as the number in common use increases, for different tanning agents produce very different results as regards colour and quality of leather, and the tanner is very often obliged to use mixtures in order to produce the desired effect. The inventor of the machine is A. F. Diehl, of Munich.

In the same issue, P. Pastrovich gives the results of the examination and analysis of the fat extracted from the seeds of *Canarium commune L.*

In the number for August 10, Dr. A. Frank-Kamenetzky writes on the use of the immersion refractometer in distillery practice. By taking the specific gravity of a mash, and also the refractive index, it is possible to arrive at the percentage of alcohol and the extract without making an actual analysis. In order to make it easier to convert the readings of the saccharometer and the refractometer into percentage composition the author has devised a slide rule, so that it is possible to determine these two important constituents of distillery liquids in a very short time. A large number of examples are given to show the close agreement with the figures obtained by the usual methods of analysis.

The proximate composition of cottonseed oil forms the subject of a communication by V. J. Meyer. In order to ascertain what are the fatty acids present in this oil, he converted them into the methyl esters by treatment with methyl alcohol and hydrochloric acid. The mixed esters were then subjected to fractional distillation *in vacuò*, and from the boiling-point, melting-point, iodine value, and other characteristics of the fractions, conclusions were drawn as to the substances composing them. It was found that about 70% of the cottonseed oil consisted of palmitin, but indications were also found of the presence of stearic and arachinic acids.

S. Kohn writes upon the analysis of sodium silicofluorate. The method he adopts depends on the precipitation of the fluorine and the silica by the addition of a neutral solution of calcium chloride and the titration of the resulting acid solution with standard caustic soda solution. The principal difficulty was to find an indicator that would give a satisfactory end-point, but the author claims to have found one in alizarine, which changes from yellow to violet.

Of the products of the artificial industry, few are more important than the artificial hair that is now being manufactured at several different works. In a paper in the *Chemiker-Zeitung* for August 14, W. Massot gives descriptions and micro-photographs of horse hair made by four different processes, and also samples of artificial straw, and human hair used for making wigs.

In the same issue Dr. E. H. Schultze adversely criticises the German custom of valuing fertilisers according to the amount of phosphoric acid soluble in water, instead of basing their opinions as to efficacy upon the determination of the phosphoric acid soluble in citric acid solution. One effect of the German method is that the manufacturers often make phosphates containing considerable proportions of free phosphoric acid, which is very injurious to the crops. From his experiments he concludes that all methods for the determination of free phosphoric acid in superphosphate can only yield fallacious results, as the solutions examined never have the same composition as the original superphosphate.

That the therapeutic effects of many mineral springs is due largely to the fact that they contain radio-active substances dissolved in the water has been generally recognised for some time past, and accounts for the fact that the waters in question are efficacious only when taken on the spot, for if they are bottled and sent away, the radio-activity ceases before the water has been consumed. The paper by C. Engler and H. Sieveking in the issue of August 17 will be read with interest, as it gives the method used by them to determine the activity of a large number of German and Italian springs, and the results of their determinations. Some experiments with the very active sediment that is deposited by some of these springs are also of interest.

F. M. Berberich and A. Burr write upon the different methods for the estimation of fat in cream.

There is also a description of some small electric transformers for pressures up to 30,000 volts.

In *Chemische Industrie* for August will be found an account of the chemical industry of Japan, the data being taken from an official report by the German Consul at Kobe. Many interesting particulars are given concerning the production of camphor, menthol, peppermint oil, vegetable wax, agar agar, gall nuts, and other products.

Indian Notes.

MARKET movements (Calcutta, 1st August) are reported as under :—

Borax.—Stocks are very small, and dealers quote Rs.14.8 to Rs.15.8. per bazaar maund, weight, loose, prompt delivery. Supplies continue low and no arrivals from up country for weeks past.

Castor Oil Cake.—Export business continues nil, and prices are Rs.5.15½. for average and Rs.6.2½. for picked white, per bag of two maunds, f.o.b. for near and near forward shipments. Stocks and supplies are small.

Bone Meal.—Prices for all descriptions have kept fairly steady, and mills continue to quote Rs.72.0. to Rs.73.0. for New Zealand quality, Rs.68.0. for steamed quality, and Rs.61.8. to Rs.62.0. for unsteamed quality, guaranteed 4½% ammonia and 52% tribasic phosphate of lime, per ton of 20 cwts., f.o.b. for near and early deliveries.

Bone Dust.—Quotations are Rs.50.0. to Rs.52.0. per ton, f.o.b., guaranteed 3½% ammonia and 40% tribasic phosphate of lime, for near shipment. Offerings of this grade continue small.

Castor Oil.—Owing to pressure for delivery under old contracts, prices of ready oil have been forced up to Rs.19.0. for No. 1 fine pale, Rs.15.4½. for good seconds, and Rs.15.0. for thirds, in cases, per bazaar maund, weight, f.o.b., for prompt shipment. Offerings of all grades continue inadequate. For forward deliveries lower prices are accepted.

Cocoanut Oil.—Stocks and supplies continue small. Rates are Rs.22.6½. to Rs.22.8½. per bazaar maund, weight, f.o.b. in cases for near shipment.

Beeswax.—Business very limited. Quotations are Rs.80.0. to Rs.85.0. for locally refined sorts, Rs.70.0. to Rs.80.0. for raw per bazaar maund, weight, loose, prompt delivery.

Saltpetre.—Market quiet, with little business passing. Prices Rs.8.8. to Rs.9.8. for Furrackabad refined qualities, and Rs.8.3. to Rs.8.4. for ordinary 5% refraction quality, per factory maund, weight, loose, for near delivery. Offerings of lower refraction quality are small, while those of higher refraction qualities are bountiful.

Salt.—The market closed easy. Local stocks held, in maund weights were, ex Liverpool, 652,442 ; Hamburg, 213,341 ; Aden, 96,545 ; Saliff, 19,080 ; Phocee, 161,312 ; Spanish, 158,160 ; Port Said, 107,380 ; and Bombay, 13,658. Quotations per maund were :—Liverpool, Rs.49.0. to Rs.50.0. ; Hamburg, Rs.45.0. to Rs.48.0. ; Aden, Rs.45.0. to Rs.66.0. ; Saliff, Rs.47.0. to Rs.73.0. ; Phocee, Rs.68.0. ; Spanish, Rs.46.0. to Rs.73.0. ; Port Said, Rs.47.0. to Rs.71.0 ; and Bombay, Rs.47.0. to Rs.48.0.

Note.—The rupee can be taken at 1s. 4d., and the anna at a penny. The import duty on salt is Rs.1.0. per maund. The Indian maund is 82⅔ lbs., the factory maund is 74 lbs. 10 oz. 11 dwts., and the bazaar maund 82 lbs. 2 oz. 3 dwts. One cwt., *i.e.*, 112 lbs., equals 1 bazaar maund, 14 seer 8$\frac{8}{11}$ chittacks.

TENDERS FOR LUBRICATING OILS.—The Board of Trade have received from their correspondent in Johannesburg a copy of the conditions and specification relating to tenders for the supply to the Central South African Railways of the following quantities of lubricating oils, to be delivered as required, viz., 16,000 gallons of cylinder oil for locomotives, 28,500 gallons of heavy bearing axle oil, 20,000 gallons of castor oil, and 1,000 gallons of lard oil. Tenders, in sealed covers, marked outside "Tender for Lubricating Oils," must be received by the Secretary to the Tender Board, P.O. Box 4,570, Johannesburg, or delivered to him by hand at the Railway Offices, Johannesburg, by 11 a.m. on the 8th October next. The conditions and specification may be examined by British traders at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Refining Camphor. G. de Geofroy and O. Oberländer. 18,658. August 19.
Azo Dyestuffs. P. A. Newton. 18,698. August 19.
Explosives Manufacture. The Cotton Powder Co., Limited, G. E. Arnold, A. S Fox, and A. C. Scott. 18,703. August 19.
Increasing the Explosiveness of Hydrocarbons. Rütgerswerke Akt.-Ges. 18,706. August 19.
Sodium Ferrite and Aluminate. G. T. Beilby and H. N. Beilby. 18,750. August 20.
Tanning Extracts. J. P. Rasmusseh. 18,773. August 20.
Gas Producer Plant. G. J. C. Parker and The Automobile Producer Syndicate, Limited. 18,825. August 21.
Smoke-consuming Devices. C. North. 18,896. August 22.
Electro-deposition of Metals. B. M. Bailey. 18,898. August 22.
Tungsten Dioxide. The Westinghouse Metal Filament Lamp Co, Limited. 18,922. August 22.
Diamins and Alkylated Diaminobenzoylkamines. O. Imray. 18,942. August 22.
Rotary Kilns. J. H. Thwaites. 18,959. August 22.
New Derivatives of Gallocyanide Dyestuffs. Farbwerke vorm. L. Durand, Huguenin and Co. 19,001. August 23.
New Gallocyanines. Farbwerke vorm. L. Durand, Huguenin and Co. 19,002 and 19,003. August 23.
Removal of Copper from Copper, Tin, Antimony, and Lead Alloys. W. Ritcher. 19,016. August 23.
Extracting Glue. A. R. Weiss, Junr. 19,019. August 23.
Electrolytic Process for Preparation of Indigo Dyes. H. Chaumat. 19,027. August 23.
Pipe Joints. Yarrow and Co. (Bolton), Limited, and M. Yarrow. 19,036. August 24.
Ozone. A. Neumann and S. Luczak. 19,070. August 24.
Destructive Distillation of Carbonaceous Substances. T. Parker. 19,082. August 24.
Telethermometers. A. Jacobs. 19,102. August 24.
Cement Manufacture. A. Wilson. 19,105. August 24.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Purifying Metallic Compounds. British Thomson-Houston Co. 18,489.
Gas Analysis Apparatus. Simmance and Abady. 18,680.
Treatment of Sulphide Ores containing Zinc. MacIvor and Fradd. 19,130.
Retorts, Coke Ovens, etc. Koppers. 21,269.
Extracting Tin from Iron-containing Tin Products. Brandenburg. 22,033.
Separation of Atmospheric Nitrogen. Cunnington. 25,605.
Ore Crushers. Fitton. 26 348.
Centrifngal Apparatus. Lindahl and Halling. 29,264.
Paints. Ramos-Garcia. 29,504.

1907.

Steam Superheaters. Horsey and Vaughan. 3,094.
Explosives. Himalaya. 3,179.
Recovery of Vapours from Volatile Liquids. Diamanti and Lambert. 5,019.
Peroxide of Potassium. Jaubert. 7,641.
Refining Tin Electrolytically. Steiner. 10,730.
Grinding or Crushing Mills. Russell. 11,767.
Recuperating Filter. Lamort. 11,925.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Reaction Towers, Regenerative Chambers, and the like. R. Scherfenberg, 28, Martin Lutherstrasse, Schöneberg-Berlin, Germany. British Patent, 4,366. Feb. 21, 1906. Date claimed under International Convention.

The inventor claims:—(1). Brick for making the inside structure of reaction towers, regenerative chambers and the like, of triangular, quadrangular or polygonal section, with corrugated or smooth surface, said brick having notches in the one bevelled half, fitting over the other bevelled half of adjacent bricks so as to allow of making a cross-bond.

(2.) Structure made of bricks for reaction-towers, regenerative chambers and the like, of triangular, quadrangular or polygonal section, said bricks having notches in the one bevelled half, fitting over the other bevelled half, the lowermost layer of the bricks being arranged in parallel rows, the distance between said rows being equal to the pitch of the notches, the following layer being placed in rows at right angles to the rows of the lower layer, so that each brick engages several bricks of the layer beneath it, a strong inside cross-bond being thereby produced, the bricks being thereby prevented from moving or giving way.

A Process for Extracting Copper from its Ores or Mineral Compounds. J. Gathy, 55, Boulevard de l'Hopital Mons Belgium British Patent, 18,574, 1906. Date claimed under International Convention, August 25, 1905

The inventor claims:—A process for the recovery of pure copper from its ores or compounds by chlorination and reduction of the resultant cuprous chloride by means of nascent hydrogen, characterised in that steam is introduced into a reducing furnace in which a mixture of the cuprous chloride, and charcoal or the like, have been brought to a dull red heat.

Improvements in Ammonia Recovery Gas Plants. W J Crossley, of Crossley Bros., Limited, Openshaw, Manchester, and T. Rigby, 23, The Square, Fairfield, Manchester. British Patent, 24,144. October 30, 1906

This invention has for its object improvements in producer gas plants designed with a view to recovering ammonia. In such a process, in order to obtain a large yield of ammonia, it is desirable to work the producers at a low temperature, and this is usually done by arranging for a large quantity of steam to be mixed with the air passing through the gas producer. A portion of the excess of steam passes through the producer undecomposed, and to make the process an economic success it is not only necessary to recover the ammonia, but it is essential that the great quantity of latent heat present in the water vapour should be recovered from the gas.

In most of the processes employed the ammonia is recovered at a temperature above that at which the water vapour is condensed, and before it is condensed, but in Patent No. 20,716, of 1901, a process is described in the specification which was calculated to simplify methods hitherto in use by condensing the water vapour and tars in the gas before the ammonia was absorbed, and this was done in a special way as described in the mentioned patent. By means of this improved process the plant was considerably simplified, and the process made easier to work. The object of the present invention is to still further simplfy the process, and instead of recovering the latent heat of the water vapour separately and the ammonia separately the operations are combined.

In the process referred to an apparatus was used mentioned in that specification as a washer. This washer was of improved construction, and was split up into compartments with the object of making zones of temperature, the water contained in the washer travelling constantly in the direction of the hottest end. This hot water was then pumped through an air-saturating tower, with the object of saturating the air supply to the producers with water vapour and cooling the water, the cool water flowing back to the coolest end of the washer and then recirculated. This apparatus was also arranged in such a manner that the ammonia was not lost, being passed onwards with the gases to an ammonia-absorbing tower. In the present invention sulphuric acid is added to the water circulating in the washer in such quantities that there is always present in the liquor a small quantity of free acid, and thus a fairly concentrated solution of sulphate of ammonia is obtained and circulated instead of water. The actual sulphate liquor thus becomes the medium for interchanging the heat of the gas and the water vapour condensed and also washes the gas; the small percentage of free acid present in the liquor absorbing the ammonia in the gas in a very efficient manner. It will be understood that the water vapour from the gas condensed by the liquor in the washer is added to this liquor and is more or less afterwards recovered in the air-saturating tower, portions of the liquor being taken off as required for further concentration by evaporation and crystallisation in the usual manner.

Improvements in Electric Transformer Furnaces. E. A. A. Grönwall, A. R. Lindblad and O. Stalhane, Ludvika, Sweden. British Patent, 7,791. April 3, 1907.

In electric smelting furnaces of the so-called transformer type, one of the greatest disadvantages has consisted in the great shifting of phases arising from magnetic leakage, which generally has been very considerable, while, in electric smelting

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furnaces of the transformer type, on account of the high temperature, having regard to the magnetic leakage, the two electric circuits (that is, the primary coil and the smelting bath), cannot be placed as near each other as is desirable, it is necessary to resort to special measures in order to prevent the shifting of phases from being too great, which makes the use of expensive machinery necessary. The present invention has for its object improvements in transformer furnaces with a view to reduce these disadvantages.

The idea on which the invention is based is to place coils in the path of the leaking lines of force, to which coils suitable electric current is supplied, the coils being so arranged that the magnetic forces which are generated in the coils counteract the leaking lines of force. The specification, with two sheets of drawings, should be consulted.

SALT PRODUCTION IN MEXICO.

A UNITED States Consular report on the production of salt in the district of Manzanillo describes the primitive method of extracting the salt from the many shallow lagoons along the coast. At a convenient place, generally at high water mark, the following is constructed: On top of four strong posts, placed upright and protruding out of the ground about 6 feet, a flat covering is built on poles; on top of these about a 3-foot thickness of dry grass or straw is placed. When completed it is a flat-roofed shed with straw covering. This is to serve as the filter. Underneath this a receiving bowl is made of stone and lime mortar. At one side of the filter and bowl the evaporating pans are made of lime mortar, being shallow tanks not over six inches deep and divided into squares of about 150 superficial feet each. This completes the salt works. A layer of earth of one-fourth to one-half inch is then scraped daily from the exposed land that was covered with water when the lagoon was full in the wet season. This earth is carried in baskets on men's heads to the top of the filter and emptied on the straw roof. Water is then filtered through the earth and straw, and falls into the receiving bowl highly charged with salt. The liquid is passed to the evaporating pans, this being done with earthen jars. The sun evaporates the water and leaves the pure salt, which is piled up in the sun to dry. It is then packed in bags and conveyed by mules to the market.

The cost of making this salt is about $3.50. U.S. gold per ton, and it sells for at least twice that amount, even when the prices are lowest. It is considered the best obtained in the Republic, and commands the highest price. About 15,000 tons are now produced each year during the three months' season. With machinery much more could be made, and no doubt at much less cost. There is a ready market for many times the quantity now produced.

CONSUMERS OF SHELLAC have for some time past been feeling the inconvenience of high prices, says the *Manchester Guardian*. The two principal varieties, "button" and "orange" lac, are both used in large quantities by hat manufacturers in Denton, Stockport, Hyde, and other places round Manchester. Button lac is made in flat cakes, more or less circular in form, and, except to the expert, is a material whose exact value it is extremely difficult to gauge. Its appearance, its smell, the sound it makes when briskly broken, the feel of it, and even the taste of it, are considered carefully by the trained buyer. Orange lac is also used extensively in the manufacture of varnish. It is usually met with in thin, shivery flakes, and is much easier to judge than the other. It is only three or four years since the price of shellac was just one-third of what it is to-day; and no one appears to know the real cause of the advance. It has been attributed to the growing demand of the electrical trade and to the increasing use of high-grade varnishes, but it is doubtful whether either or both of these explanations is adequate. It is true that the demand increases rapidly every year, but it is equally true that the supply seems to increase *pro rata*. Probably the truth is that the standard of purity in the supplies is lower than formerly. India may ship larger quantities of shellac, but this season almost every quality has been inordinately adulterated with resin and other gums. It has been suggested also that the high prices have induced careless gathering, which will prove injurious to future crops. But official interest has been turned lately to the cultivation and harvesting of shellac with a view to maintaining the quality of the crops, and it is hoped that this may result in the maintenance or improvement of the standard.

THE MINERAL PRODUCTION OF SPAIN IN 1906.

THE Spanish Board of Agriculture, Industry and Commerce, in a report on the mineral production of the Kingdom, states that the output for 1906 reached a total of 498,450,851 pesetas, being an increase of 60,475,324 pesetas over the year 1905. This total is divided as follows:—

	Tons.	Value at the Mines. Pesetas.
Zinc	179,383	7,555,743
Copper	2,888,777	62,780,618
Iron	9,448,533	49,405,522
Iron (argentiferous)	120,415	507,393
Iron (pyrites)	189,243	800,302
Coal	3,095,043	37,236,436
Lead	105,095	18,422,409
Lead (argentiferous)	158,424	38,317,702

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

G. L. and Co., Ltd.—M.S. duly to hand.

W. O.—Reply to your query has been posted.

R. C. D.—Your letter has been answered by post.

C. L.—We are forwarding the information to our correspondent.

J. D. and Co.—We hope to deal with the subject in an early issue.

A. & B., LTD.—Thanks, but the matter has been dealt with previously.

CASEIN.—Will "Liverpool Inquirer" please communicate with us again, as his address has been mislaid, and we have some information to transmit to him.

Books Received.

"CONCRETE AND CONSTRUCTIONAL ENGINEERING": September, 1907.

"JAHRBUCH FUR DAS EISENHUTTENWESEN," (Ergänzung Zu "Stahl und Eisen.") Pp. 448. Dusseldorf: Kommissionsverlag von A. Bagel. 1907.

"CHEMICAL HANDICRAFT": AN ILLUSTRATED AND PRICED CATALOGUE OF CHEMICAL APPARATUS AND REAGENTS. Pp. 615. London: John J. Griffin and Sons, Ltd.

SEWAGE DISPOSAL.—Messrs. Archibald Constable and Co. will publish shortly a book on sewage disposal works by Mr. Hugh P. Raikes, A.M.I.C.E. The author is a well-known consulting engineer who has had considerable experience in the designing and construction of works. The volume will be a practical, up-to-date book dealing with the subject from the engineering point of view.

SULPHUR IN INDIA.—The sulphur mines of Sanni, Baluchistan, which have not been worked for many years, have recently been examined. Some of the clay bands are so full of sulphur that they burn with ease. The amount of sulphur impregnating the rock seems sufficient to give remunerative working.

PETROLEUM IN SERVIA.—The *Handels-Museum* of August 8 contains a copy of a notice inviting tenders for (1) the construction of a new reservoir in Belgrade to contain 2,500,000 kilogs. of refined petroleum at a summer temperature of 45° C.; (2) the alteration of the old reservoir from 2,500,000 kilogs. to 2,000,000 kilogs. containing capacity; (3) embanking the site and macadamising the area in connection with the above. A deposit of 20% of the amount of the tender must be paid into the Kassa der Monopolverwaltung before 14th October. Tenders for any or all of the above contracts may be sent in to the Monopolverwaltung, Belgrade, until 15th October. The length of time in which the work can be carried out must be stated in the tenders, which must be stamped with a ten dinars stamp.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Sept 4.
120,000	1	1	Bell's Asbestos ... ord	35/-
	Stock	100	Boax Consol. 4½% deb. stock red	109 111
80,000	10	10	Do. ... pref.	11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ord.	23/4½
1,50 ,000	1	1	Do. ... 5% c.p.	20/10½
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	44/-
10,000	10	10	Do. ... 6% c.p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5¼ 5⅜
82 678	10	10	Do. 7% pref.	17¼ 17½
96,000	5	5	Bryant and May ... c.p.	12⅜
40.000	10	10	Buxton Lime Firms ord.	6⅛ 6⅜
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/6
450,000	1	1	Castner Kellner ... ,,	24/3 24/9
16,000	5	5	Clayton Aniline ... ,,	2¾ 3
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J., and Sons c.p.	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/3 27/9
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	93¾
	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	3¼ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11 11¼
200,000	10	10	Lever Bros. ... 5% c.p.	11 11¼
400,000	10	10	Manchester Ship Canal ord.	21/3
400.000	10	10	Do. per 5% pref.	30/6
120,000	1	1	Mandleberg ... ord.	30/6 31/6
185,145	1	1	Mason and Barry ... ,,	58/9
110,007	10	10	Nitrate Railways ... ,,	13½
228,540	10	10	Nobel Dynamite Trust ,,	15 7/16
	10	10	Do. share warrants	15½
200,000	1	17/-	Oakbank Oil, Ltd. ... ord	38/6
	1		Pears, A. and F. ... ,,	1 7/16 1 9/16
70,000	10	10	Pease and Partners ... ,,	13⅞
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12¾
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	74½
2,500	7½	7½	Robin and Houston ... ,,	85/-
239.479	1	14/2	Sadler and Co. ... ,,	3/- 3/6
200,000	4	4	Salt Union ... ... ,,	17/- 17/6
100,000	6	6	Do. ... 7% n.c.p.	85/-
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1⅛ 1⅜
	1	1	Schibaieff Petroleum ,,	⅛ ½
£6,250.000	Stock	100	South Metropolitan Gas ,,	119¼
45,000	10	10	Steiner, F. and Co. 5% c p.	9 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6½
289,343	10	10	United A kali ... ord.	79/6
282.524	10	10	Do. ... 7% pref.	11½
80,000	1	1	United Indigo & Chemical ord	1/9 2/-
66,666	5	5	Willans and Robinson ,,	¼ ⅜
210,000	1	1	Woolc mbers .. 7% c.p.	19/9 20/3
112,202	4	4	Young's Paraffin ... ord.	75/9

RUSSIAN MINERAL FERTILISER DIFFICULTIES.—The *Xosiastvo* publishes a long article on the dearness of mineral fertilisers in Russia, which is mainly caused by the immense distances between the sources of supply and the points of consumption. In Russia there is only one factory producing Thomas slag; this is near the town of Taganrog, and the carriage of the fertiliser to where it is most in demand—the Baltic provinces and Poland—is so expensive that the farmers of the areas named prefer to get their supplies from abroad. The whole quantity of Thomas slag produced, amounting to 700,000 poods (13,000 tons) a year, is used up in sixteen governments. A somewhat similar state of affairs exists as to superphosphates, to produce which there are several factories, but they are all concentrated in Western Russia, and whilst such a state of the producing industry continues the writer of the article urges a great reduction in railway carriage.

NEW YORK PRICES CURRENT.

AUGUST 20, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8⅛
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7¼
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7⅝
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds ..	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7¼
Potassium, Bichromate	,,	0 8½
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7¼
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

SERIOUS DOCK FIRE AT ANTWERP.—Much damage has been done during the past week by fire at the Antwerp Docks. It is suspected that the fire is the result of incendiarism. The damage is estimated at 4,000,000 francs.

BY-PRODUCTS AND THEIR UTILISATION.—The question of by-products and their utilisation (says *Cassier's Magazine*) is one which has been discussed many times and from various viewpoints. There is no doubt that too much effort may be made to save the last fragment of material or power, and that the cost may be out of proportion to the saving. There are examples, however, and these are multiplying, in which modern technical developments are showing that what was formerly considered a by-product may hereafter turn out to be the principal source of revenue, while the original product of a process is relegated to the second place. There is no doubt that in the modern power plant extensive and costly methods are employed for the sake of getting the maximum amount of power from the steam, these including feed-water heaters, superheaters, condensers, multiple-expansion engines, etc., and these are all fully justified if mere economy of steam is the ultimate end in view. The real aim of all mechanical improvement in such a plant is the economy of money, and any other saving must be regarded as a means toward that end, and it is quite possible to save steam at the expense o increased charges for wear and tear, depreciation, and interest on first costs. If, under these conditions, it is found that the absorption system, using large quantities of steam, be found desirable from a commercial point of view, it is not impossible that the refrigerating plant may have power to sell as a by-product, or rather that both power and cold may become joint products of a modern central station. Such a station would be distinguished by the simplicity of its power generating machinery, and possibly also distinguished by the satisfactory returns which it would make to its shareholders.

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Anglo-Mexican Oilfields.—Mr. J. B. Bergheim, presiding at a statutory meeting on Thursday last, said that all the machinery had been ordered since they were constituted two months ago, and had arrived at the ports. When they would start drilling he could not say definitely; he thought drilling would have commenced by December 1. Nothing had transpired since they took over the property to weaken their faith in it. As an oil venture it started with everything in its favour.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, August 20, 1907.

(Rate of Exchange, $4.38 = £1.)

Nitrate of soda remains in an unchanged condition, and spot parcels are being offered at $2.45. per 100 lbs. Sulphate of ammonia remains dull, at $3.05. to $3.07½. for future, while prices for spot are being shaded a little to stimulate business. Grey muriate of ammonia for galvanising is quoted at 5¼c. to 6¼c. per lb., and is selling principally on contract; white electrical is dull, and can be bought as low as 5¼c. per lb. Lump sal ammoniac is well maintained at 9¼c. per lb. Lump carbonate of ammonia is moving very slowly at 7⅞c. to 7⅞c. Bleaching powders are quoted at $1.30. per 100 lbs., and are rather dull. Alkali and caustic soda are unchanged. Sulphate of copper is weak, and we expect reduction in prices in the near future. White powdered arsenic is dull, but prices are well maintained, and even a shade higher for future. Red Saxony arsenic is moving along slowly, and prices are about the same. Calcined potash, 80-85%, is in fairly good demand, and prices are maintained at 3⅞c. to 3¾c. per lb., with the hydrated at 4¼c. per lb. Caustic potash, 75%, is in a little better demand, but prices remain about the same. Chlorate of potash and soda remain unchanged. Bichromate of potash is in good demand at 8½c. to 8¾c. per lb., and soda at 7¼c. to 7½c. per lb. Oxalic acid is in good demand, although the price has broken a little. It is now quoted at 8⅜c. per lb. for spot.

TAR AND AMMONIA PRODUCTS.

Thursday.

Benzols: Values are given at 8¾d. for 90's, and 8½d. to 9d. for 50-90's. Crude tar, 15s. 6d. to 20s. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel. Gas Company, 12s. 6d. Pitch, 26s. 6d. to 27s., f.o.b.; Gas Company, 29s., forward; East Coast, 25s. to 25s. 6d.; forward, 20s. to 20s. 6d.; West Coast, 24s. to 24s. 6d.; forward, 2s. more. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10½d. to 11d.; pure, 1s. 3d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8d.; 75%, 1s. 11¾d. to 2s. Crystals, 39-40, 5¾d.; 34-35, 5½d. Cresylic, 95%, 1s. 1d. to 1s. 1½d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, £12. 1s. 3d.; Beckton terms, £11. 11s. 3d. to £11. 12s. 6d.; next year, £12. 2s. 6d. London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.; forward, £12. 5s.

Nitrate of soda, ordinary, 11s. 3d.; and refined, 11s. 9d. Liverpool, ordinary, 11s.; refined, 11s. 1½d. Official quotations:—Cargoes off coast or due, 11s. 1¼d.; ditto for prompt shipment, 11s. 6¼d.

FERTILISER MATERIALS.

Friday.

There is a complete absence of activity, but prices for all descriptions of manure material remain steady.

There is no change to report in mineral phosphates, raisers of all grades still maintaining a firm attitude, and being busy with the execution of contracts.

East Indian bone meal attracts but little attention, shippers requiring £4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, for 4½ and 52% quality. On spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is asked.

Nitrate of soda remains a very quiet market, but quotations are steady, at 11s. 1½d. to 11s. 4½d. per cwt., for ordinary and refined qualities, respectively, ex store.

THE LONDON METAL MARKETS.

Thursday.

Copper: Standard brands, £74. to £74. 5s. cash, and £73. 17s. 6d. to £74. 2s. 6d. three months. Tin: G.M. quality, £168. 5s. to £168. 15s. cash, and £168. to £168. 10s. three months; English, £170. Lead: soft foreign, £19. 15s. for September; £19.15s. for November-December; and £21. 5s. for December shipment, ex ship; hard, £18., f.o.b. Antimony, £35. to £38.; Chinese crude, £25., c.i.f.; ore, £10. Bismuth, 6s. 6d. Quicksilver, £7.; seconds, £6. 10s. Nickel, £175. to £185. Aluminium, £155. to £160. Wolfram, 48s. to 49s. Pig iron closing prices:—Cleveland, 55s. 5d. cash, and 55s. 5d. one month.

MISCELLANEOUS CHEMICAL MARKET.

Friday.

Business has been fairly good during the past week, and values, as a whole, are well maintained. Bleaching powder is still quoted for 1908 delivery at £4., softwoods, on rails, and the majority of the large contracts have now been settled. The price of caustic soda for next year is not yet fixed. Prompt quotations are unchanged, viz.: 74%, £10. 5s.; 70%, £9. 15s.; 60%, £8. 15s., f.o.b. Liverpool. Ammonia alkali, 58%, firm at £4. 10s. on rails, for odd orders, and 5s. per ton less for contracts. Chlorates and bichromates are without alteration. Inquiry for sulphate of copper is rather quiet, and price easy for spot and early shipment, at £26., f.o.b. Liverpool. Recovered rock sulphur, £4. 10s., rails. Saltcake firm, at 40s., f.o.r. American brown acetate of lime dull, at £8. 7s. 6d., c.i.f.; grey, £12. 10s. Acetic acid and other acetates are unaltered. Potash, caustic and carbonate, is again exceedingly scarce on the spot, and higher prices are being obtained. Prussiates of potash and soda are again weaker. Oxalic acid steady, at 3⅞d. to 3¾d. per lb., ex store. Nitrate of soda, 11s. 3d., f.o.r. Garston. For white powdered arsenic there is more inquiry, and quotations rule fairly firm at £31. to £31. 5s., Garston, for best brands. Borax has been advanced to £16. for crystals, and £17. per ton for ground.

LIVERPOOL DRYSALTERIES.

Thursday.

Montreal potashes quiet, at 35s. 6d. to 36s. per cwt. Pearl ash nominal. Cutch steady. Gum arabic quiet. Gum copal: A parcel of Brazilian is reported to have been sold at 52s. per cwt. from store. Logwood and fustic quiet. Castor oil quiet, at 3½d., for good seconds Calcutta; 3 11/16d. for first pressure French; 3¼d. for second pressure French, all on spot; and 3 9/32d. for Calcutta shipment on to January. Gambier: Block 18s. 7½d. to 19s. on spot; and 18s. for June-July and July-August shipment. Cubes, 28s. 6d. to 29s. on spot; and 27s. 10¾d. for August-September, and September-October shipment. Shellac quiet, at 185s. for fair T.N. orange on spot. American powdered starch, 10s. 3d., on spot, and 9s. 9d., c.i.f., for shipment; pearl, 9s. 9d., on spot, and 9s. 3d., c.i.f., for shipment. Glucose: American liquid, 43%, 11s. 3d., on spot, and 9s., c.i.f., for shipment. Cream of tartar, 98%, foreign powder, 81s.; 95%, 79s. Tartaric acid, English, 11¼d. on spot; foreign, 11d. Citric acid: English, 1s. 10½d. on spot; foreign, 1s. 10¼d.

LIVERPOOL OIL AND COLOUR MARKET.

Thursday.

OILS.—Palm oil quiet, sales including Lagos at £29. 10s. per ton. Cottonseed oil steady at 30s. 9d. to 31s. 3d. for Liverpool refined in export barrels. Linseed oil firm at 24s. 9d. to 25s. for Liverpool makes in export casks. Tallow steady, at 33s. per cwt. for South American beef. Rosin steadily held at recent currencies. Turpentine quiet, at 41s. 3d. on spot. Petroleum steady, at 6½d. for Russian and Roumanian, and 7d. to 8d. for American refined oils. Petroleum spirit in fair demand, at 1s. 0¾d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

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TYNE CHEMICAL REPORT.

THURSDAY.

Market remains steady, but without any change in prices. Shipments continue fairly good. Soda crystals, locally, are firm, at £3. to £3. 2s. 6d. per ton, gross weights. Caustic soda steady, at £9. 15s. for 70%, and £10. 10s. per ton for 76-77% Bleaching powder quiet, at £5. per ton. Sulphur scarce and firm, at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 50-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market generally firm, with a brisk inquiry for all classes, and many of the principal collieries are fully sold for September. Market for forward business is somewhat unsettled owing to a possibility of labour troubles in Northumberland. To-day's prices:—Best Northumbrian steam, 16s. 6d. to 16s. 9d. per ton; second qualities, 16s. to 16s. 3d. per ton; Northumberland smalls, 10s. to 10s. 6d. per ton; best gas coals, 15s. 6d. to 16s. per ton; Durham bunkers, 14s. 3d. to 15s. per ton; coking coals, 14s. 3d. to 14s. 6d. per ton; household coals, 16s. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The position in sulphate of ammonia is not materially changed since last report. For spot, f.o.b. Leith, £12. 2s. 6d. was paid, but this was a special parcel, and quite small. The real spot value is about a good £12. Nothing is doing in forward, makers still being disposed to stand off for a time. Sulphate of copper continues weak, but there has not been any further marked fall. The general chemicals continue healthy in tone, at prices showing little or no change. Forward business seems a shade easier. Firmness still marks the purely local section of mineral oils and paraffins. Makers are now almost fully contracted forward in burning oils, and sales to English customers, which formerly had a slight preference, are now rated the same as those to Scotch buyers. Creosote gets stronger, and the figure to-day, naked, f.a.s. Glasgow, is 2¼d. to 2½d. per gallon.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¾d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3¼d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 5s. 3d., prompt f.o.b. Leith; sulphate of copper, £26. 15s., less 5% Liverpool, prompt.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—Refined cotton oil, after advancing to 28s. 6d., fell away again, but closes steady. Linseed oil has risen by about 2s. to 3s., and closes firm at the advance. Turpentine is easier. Amongst the principal imports here to date are:—Wheat 2,753,740 qrs., against 2,661,921 qrs.; flour 147,657 cwts., against 253,668 cwts.; linseed 524,417 qrs., against 356,412 qrs.; rapeseed 61,700 qrs., against 66,018 qrs.; cottonseed, Egyptian, 127,908 tons, against 111,443 tons; other kinds, 125,172 tons, against 100,978 tons; oilcake 18,136 tons, against 28,830 tons; hemp 92,647 cwts., against 116,153 cwts.; olive oil 3,490 tuns against 2,941 tuns; tar 4,373 brls., against 7,318 brls. Amongst the weekly imports are:—Lard, 5,279 cwts.; margarine, 2,137 cwts.; sugar, 21,110 cwts.; glucose, 40 cwts.; wool, 53,248 lbs.; hemp, 578 cwts.; hides, 170 cwts.; colours, 1,608 packages. Exports:—Oil, 9,314 cwts.; colours, 2,149 packages; chemicals, 2,006 packages. Refined cotton closes steady at 28s., spot naked; September-October, 26s. 3d.; November-April, 23s. 4½d.; casks £1, and barrels 27s. 6d. per ton extra. Exports during the week:—1 ton Denmark, 59 Germany, 16 Holland, 1 Sweden; total, 77 tons. Cottonseed quiet, at £8. 5s., store; £8. 3s. 9d. passage; September, £8.; October, £7. 7s. 6d.; November-January, £7. 13s.; Bombay, September-October, £5. 16s., buyers. Linseed oil maintains a strong position, closing firm at 22s. 3d. paid; September-December, 22s.; sellers, January-April, 21s.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—3 tons Belgium, 7 France, 4 Norway, 1 Turkey; total, 15 tons. Linseed: Good business done at an advance of 6d. Market closing firm. La Plata, 42s. 3d. spot; September-October, 43s., paid. Turpentine, 41s.; September-October 41s. 6d.; January-April, 43s.; Russian ditto, 20s. 6d. Rosins unchanged. Olive oil, Levant, £42. per tun.

CAKES.—Linseed cakes are 2s. 6d. per ton dearer on the week, with fair demand and firm market. Cotton cakes dearer and scarce. Bombay ditto well held for full prices.

New Companies.

Cullis, Phillips and Co., (1907), Ltd.—Capital £1,000., in £1. shares (400 preference). This company has been formed to acquire the undertaking and all or any of the assets and liabilities of Cullis, Phillips and Co., Ltd., incorporated in 1897, to adopt an agreement with H. Charlesworth, the liquidators of the said company, and to carry on the business of manufacturers of and dealers in bricks, tiles, pipes, cement, stone, tar, pitch, asphalte, terra-cotta, plaster of Paris, whiting, artificial stone, etc. No initial public issue. The first directors are T. Cullis, A. Phillips and H. Marks, each of whom may retain office while holding 50 shares. Registered office, 31, York-place, Portman-square, W.

New Brunswick Canadian Salt Co., Ltd.—Capital £50,000., in £1. shares. This company has been formed to carry on the business of salt and chemical manufacturers, etc. No initial public issue. The first directors are to be appointed by the subscribers; qualification £250.; remuneration £150. each per annum, and 2½% of the profits available for distribution after paying 10% on the ordinary shares, divided. Registered office, Dixon House, Lloyd's-avenue, E.C.

Rubber Concessions, Ltd—Capital £5,000., in £1. shares. This company has been formed to acquire an option for the purchase of a concession for the collection of rubber and other purposes in Republic of Ecuador, granted at Risamba by the Government of Ecuador to Francisco I. Salazar in September, 1903, and with a view thereto to adopt an agreement with C. A. V. Conybeare and G. Gall. No initial public issue. Registered without articles of association. Registered office, 46, Leadenhall-street, E.C.

Sambas Rubber and Gutta Percha Co., Ltd.—Capital £160,000., in £1. shares. This company has been formed to acquire certain concessions and property in Sambas, Dutch West Borneo, now owned by the Cultuur and Handelmaatschappij Siloewas, of Amsterdam, and with a view thereto to enter into an agreement with the Netherlands Indies Syndicate Ltd. Minimum cash subscription £38,000. The first directors are to be appointed by the subscribers; qualification £250.; remuneration (except managing director) £100. each per annum and £50. extra for the chairman. Registered office, 3-4, Fenchurch-street, E.C.

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IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 24.

Acetic Acid—
Holland, 57 pks. W. H. Muller & Co.
,, 8 31 blns. R. & ,, 2 cks. W. Greeff ,, 26 bydy. & Co.

Acetone—
U.S.A., £800 F. A. Tye
,, 800 Trustees of T. T. Wood
Germany, 45 T. H. Lee
A. Hung., 1,680 P. F. Knowlden

Alcohol (Methylic)—
Canada, 6,000 g. F. A. Tye
Germany, 8,500 ,,

Aluminium Sulphate—
Holland, £280 E. Lloyd

Ammonium Bromide—
Germany, £22 L. & I. D. Jt. Co.

Amyl Acetate—
Germany, £30 Reitmeyer & Co.
,, 94 B. Blaber

Antimony—
Straits, 8 t. 8 c. Prop. Hay's Wf.
,, 8 8 R. & J. Henderson
N.S.W., 2 5 J. W. Cook & Co.

Argols—
Spain, 55 brls. B. Jacob 747 bgs. & Son
Italy, 50 cks. ,,
,, 1,380 bgs. ,,

Arsenic—
Germany, £80 P. Jantzen
,, 40 G. Boor & Co.

Asbestos—
Natal, 9 c. L. & I. D. Jt. Co.
Canada, 30 t. 15 Lunham & Moore

Barium Chloride—
Germany, £70 Silicate Paint Co.

Barium Nitrate—
Germany, £36 Jessop & Co.

Barytes—
Holland, 41 cks. J. L. Lyon Sons & Co.
,, 20 Van Dam & Co.
,, 150 bgs. Felton & Crepin
,, 73 pks. J. Greig
,, 40 J. D. Budd
,, 208 100 W. Harrison & Co.
,, 48 O. Lechla
,, 134 L. Cartwright
,, 23 Silicate Paint Co.
,, 46 W. Oslermann & Co.
,, 117 430 Felton & Crepin
,, 1,000 G. G. Franci
,, 46 A. Zumbeech
,, 23 J. Barbe
Belgium, 50 O'Hara & Hoare
,, 85 brls. B. & F. Wf. Co.
Germany, 11 Henderson, Craig & Co.
,, 176 W. Harrison & Co.
,, 21 London & Rhine S. Office

Basic Slag—
Belgium, 380 t. Anglo-Cont. Guano Wks.

Benzoic Acid—
Germany, 4 cs. Millwall Dk. Co.

Camphor—
China, 7 cs. W. J. Cook & Co.
France, 28 L. & I. D. Jt. Co.
H. Kong, 10 pks. W. H. Smith & Son
,, £180 R. Warner & Co.

Camphor—
Germany, £24 W. H. Smith & Sons
,, 50 t. L. & I. D. Jt. Co.
E. Indies, 100 cs. R. Warner & Co.
France, 306 ,,

Caoutchouc—
Burmah, 2 t. 4 c. W. H. Smith & Son
,, 2 4 L. & I. D. Jt. Co.
Straits, 5 10 S. Figgis & Co.
,, 4 Butler'sWf
Ceylon, 4 Anderson & Coltman
,, 2 L. & I. D. Jt. Co.
,, 1 12 Prop. Hay's Wf.
,, 1 Lyall, Anderson & Co.
,, 9 Rowe, White & Co.
,, 4 Chamber's Wf.
,, 1 Major & Field
,, 11 Crabbe & Co.
,, 6 Leach & Co.
U.S.A., 12 Lewis & Peat
France, 1 10 ,,
,, 9 L. & I. D. Jt. Co.
,, 2 S. Figgis & Co.
E. Indies, 1 1 W. H. Smith & Co.

Carbon Black—
U.S.A., 219 brls. A. Fastlinger
,, 275 200 cs. Binney Smith & Co.

Carbon Tetrachloride—
Germany, £35 Fuerst Bros.

Castor Oil—
E. Indies, 100 cs. J. Spurling
France, 3 cks. L. & I. D. Jt. Co.
,, 10 R. Ansell
Italy, 10 H. Drapper Ld.

Caustic Potash—
Sweden, 16 dms. N. & R. Collyer
Germany, 40 J. M. Steel & Co.
France, 24 J. Barber & Co.

Calcium Carbide—
Norway, 4 t. 14 c. Millwall Dk. Co.

Calcium Chlorate—
Germany, £29 London & Rhine Office

Chalk—
U.S.A., £25 S. Guilermann & Co.

Chemicals (*otherwise undescribed*)
Holland, £1,866 L. A. Smith
,, 10 J. Barber & Co.
,, 295 A. & M. Zimmermann
,, 120 B. & F. Wf. Co.
Germany, 738 T. H. Lee
,, 25 N. & R. Collyer
,, 20 Prop. Hay's Wf.
,, 91 Argo S.S. Co.
,, 174 A. & M. Zimmermann
,, 70 R. W. Greeff & Co.
,, 11 C. Zimmerman
,, 34 L. & I. D. Jt. Co.
U.S.A., 2,961 R.W.Greeff & Co.
,, 6 Lunham & Moore
,, 8 Fellows, Morton & Co.
France, 7 Mory & Co.
Belgium, 15 Leach & Co.
,, 12 J. Cockerill Line
,, 9 J. Harrison
Italy, 280 t. T. W. Berk & Co.
,, 86 J. W. Dooley

Chemicals (*otherwise undescribed*)
E. Indies, 100 t. 3 c. Lucas & Spencer's Wf.
Germany, 15 P. Hecker & Co.

Citric Acid—
France, 2 cks. B. & F. Wf. Co.
,, 24 kgs. ,,

Coal Products—
Germany, 14 cks. 3 cs. L. & I. D. Jt. Co.
Belgium, 3 J. 16 hhds. Cockerill Line

Carbolic Acid
Canada, 29 dms. Furness, Withy & Co.

Pitch
Germany, 81 cks. Fellows, Morton & Co.

Tar
Germany, 200 brls. Beard & Son
,, 150 60 pcs. Linck, Moeller & Co.
N. Russia, 5 Burrell & Co.
,, 100 M. H. & J. E. Matthews
,, 50 Mordaunt Bros.
,, 5,640 J. J. Dantschewsky

Tar Oil
N. Russia, £137 London Oil Storage Co.

Copper Ore—
Queensland, 10 t. J. W. Cook & Co.
W. Aust., 1 L. & I. D. Jt. Co.
P. E. Africa, 30 Bullard, King & Co.

Cottonseed Oil—
U.S.A., 200 brls. Prop. Hay's Wf.

Cream of Tartar—
Holland, 62 cks. A. & M. Zimmermann
,, 10 Kirkpatrick, Barr & Co.
France, 18 United Yeast Co.
,, 8 L. & I. D. Jt. Co.
,, 24 W. C. Bacon & Co.

Dextrine—
Holland, 10 t. Van Dam & Co.
Germany, 10 Millwall Dk. Co.

Dyestuffs—
Annatto
France, 4 cs. B. & F. Wf. Co.

Gambier
Straits, 223 bgs. T. Barrow Bros.
,, 264 bls. W. T. Sargant & Sons

Indigo
E. Indies, 21 chts. Lewis & Peat
,, 5 Hands & Angel
Cochineal
Canary Is., 3 bgs. L. & I. D. Jt. Co.

Cutch
Burmah, 100 bxs. Leach & Co.
,, 250 W. H. Muller & Co.
Straits, 200 cs. Borneo Co.

Myrabolans
E. Indies, 2,000 pkts. France, Fenwick & Co.
,, 1,000 Erith & Dartford, Ld.
,, 1,000 E. J. Winser & Co.

Sumac
Italy, 60 bgs. Jescott, Ld.
,, 500 T. J. & T. Powell
,, 600 logs Knight Bros.

Tanners' Bark
Natal, 102 t. J. T. Rennie, Sons & Co.
,, 20 J. Greig
,, 80 J. J. Williamson & Sons
,, 84 C. S. Lovell & Sons
,, 345 Bullard, King & Co.
Belgium, 9 Leach & Co.
Cape, 48 Page East & Son

Dyestuffs—
Turmeric
Straits, 14 cks. H. River Co.
E. Indies, 136 bgs. Butler's Wf., Ld.

Valonia
A. Turkey, 75 t. Anning & Cobb
,, 45 T. J. & T. Powell
,, 250 Adam Bros.
,, 50 S. Barrow & Bros.
,, 10 Humphrey, Percival & Ellis
,, 43 Hoare, Wilson & Co.
,, 172 A. Brooksbank & Sons

Vanilla
France, 3 cs. Bowyer & Bartleet
Holland, 1 L. & I. D. Jt. Co.

Ether (Sulphuric)—
Germany, 1 cs. W. H. Muller & Co.

Farina—
Straits, 20 t. 10 c. Burgoyne & Co.

Gelatine—
Holland, £5 W.H.Muller & Co.
Belgium, 96 Atkins & Nisbet
,, 51 J. Cockerill Line
Germany, 9 London & Rhine S. Office

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glucose—
U.S.A., 6 t. 20 brls. R. G. Hall & Co.
,, 25

Glue—
Belgium, £222 Duche & Sons
,, 60 Leach & Co.
,, 10 J. Cockerill Line
,, 210 Leach & Co.
,, 65 D. C. Thomas & Son
A. Hung., 500 J. Harrison
Germany, 12 L. & I. D. Jt. Co.
France, 90 J. Harrison
,, 12 Mory & Co.
,, 385 Bennett's S.S.Co.
,, 100 G. T. Symons & Co.
Germany, 16 Prop. Hay's Wf.
A. Hung., 200 L. & I. D. Jt. Co.
Holland, 175 Hernu, Peron & Co.
,, 45 W.H.Muller & Co.
Germany, 54 London & Rhine S. Office

Gluestock—
Belgium, 6 t. D. C. Thomas & Sons
,, 5 J. Harrison & Co.
France, 5 Barr, Moering & Co.
N.S.W., 6 13 c. Goad, Rigg & Co.

Glycerine—
N. Zealand, £6 L. & I. D. Jt. Co.
Germany, 45 J. Barber & Co.
N.S.W., 737 H. Hill & Sons
Victoria 318 ,,
Holland, 250 Spies Bros. & Co.

Gutta Percha—
Straits, 89 t. 15 c. H. W. Jewesbury & Co.
,, 14 Bull & Wf.
Holland, 2 c. L. & I. D. Jt. Co.

Infusorial Earth—
France, £8 B. & F. Wf. Co.

Iodine—
Germany, £670 L. & I. D. Jt. Co.

Linseed Oil—
U.S.A., 1 brl. Lunham & Moore

Lithopone—
Belgium, 20 cks. J.Lauderdale

Magnesite—
Holland, £18 J. Barber & Co.

Magnesium Chloride—
Germany, £30 J. F. Ebner

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Manganese—
Holland, £121 J. Barber & Co.

Manganese Ore—
Germany, 6 t. A. H. Gilbert & Co.

Manganesite—
Germany, £64 Argo S.S. Co.

Manure—
Germany, 4 t. Craven & Co.

Mineral White—
A.-Hung., £60 Carluke & Co.

Molasses—
U.S.A., 24 t. 3 c. L. & I. 82 cks. D. Jt. Co.

Olive Oil—
A. Turkey, 21 t. 108 gals.
Italy, 160 F. Claydon & Co.
A. Turkey, 12 63 W. S. Rose & Co.
" 40 H. Evans & Sons
France, 1 88 F. Boehm
U.S.A, 2 L. & I. D. Jt. Co.
France, 216 "
" 6 88 Gill & Duffus
" 39 Major & Field
" 70 B. & F. Wf. Co.

Paraffin Scale—
U.S.A., 230 t. 17 c. Anglo-American Oil Co.

Paraffin Wax—
E. Indies, 4 t. 8 c. H. Hill & Sons
Germany, 2 B. & F. Wf. Co.
" 1 T. H. Lee
U.S.A., 37 10 G. Jennings
Holland, 4 10 Wilkins Cambell & Co.

Phosphate of Lime—
France, 180 t. Anglo-Cont. Guano Wks.

Plumbago—
Germany, 2 brls. Craven & Co.
Ceylon, 318 Thredder, Son & Co.
Germany, 12 cks. R. Ulrich
" 60 Juett & Cain
" 1 Craven & Co.
Ceylon, 33 brls. G. H. Green
Holland, 14 cs. Hernu, Peron & Co.

Potassium Carbonate—
Germany, 20 cks. J. M. Steel & Co.
" 38 Petri Bros.
" 22 Spies, Bros. & Co.
Belgium, 4 B. & F. Wf. Co.

Potassium Chlorate—
Holland, 20 cks. Europe & Gen. Ex. Co.
" 20 kgs. Sparks, White & Co.
Sweden, 50 G. Boor & Co.

Potassium Cyanide—
Germany, £262 Pickfords, Ld.

Potassium Fluoride—
Germany, £49 A. Hempin

Potassium Hydrate—
Sweden, £26 Dep. W. Britten

Potassium Iodide—
Germany, £800 L. & I. D. Jt. Co.

Potassium Oxalate—
Holland, £70 R. W. Greeff & Co.

Potassium Permanganate—
Germany, 45 kgs. Zimmermann & Co.

Potassium Prussiate—
Belgium, 4 cks. W. H. Smith
" 4 B. & F. Wf. Co.

Potassium Sulphate—
Germany, 4 cks. Fuerst Bros.
" 500 bgs. F. W. Berk & Co.
Holland, 20 cs. T. H. Lee
" 20 cks. A. & M. Zimmermann

Quinine—
Holland, 20,000 ozs. W. H. Muller & Co.
" 10,000 W. H. Smith & Sons

Red Lead—
France, 36 brls. J. Watt & Son
Germany, 53 cks. J. D. Budd

Ripolin—
Holland, 59 cs. Phillipps & Graves

Rosin—
Portugal, 120 brls. L. & I. D. Jt. Co.
U.S.A., 1,000 Watt & Son
" 1,200 Prod. Broker Co.
" 1,000 Goodlake&Nutter
" 1,565 London Oil Storage Co.
" 1,300 cks. Rosin & Turp Impt. Co.
" 1,000 brls. McDougall & Drontheim

Salicylic Acid—
France, £36 Mory & Co.

Saltpetre—
Germany, 40 t. P. Hecker & Co.

Salt (Waste)—
Holland, 2 t. J. Barber & Co.

Soap—
Holland, £8 W. H. Muller & Co.
France, 54 Beresford & Co.
" 24 Mory & Co.
" 120 Lucas & Spencer's Wf.
U.S.A., 17 Lunham & Moore
" 615 Armour & Co.
Germany, 51 L. & I. D. Jt. Co.
" 210 G. & H. Green
Italy, 90 Barber & Co.
U S A, 595 W. Davis
" 382 W. Langford
" 175 G. B. Clippingdale
" 552 American Ex. Co.
Belgium, 50 B. & T. Wf. Co.

Soap Powder—
Holland, £224 W. H. Muller & Co.

Soap Stock—
Germany, £25 Prop. Hay's Wf.

Soda—
France, 1 t. 19 c. J. Watt & Son
Germany, 10 4 T. H. Lee
" 10 A. & M. Zimmermann
Holland, 12 W. H. Muller & Co.

Soda Crystals—
Holland, 45 t. W. H. Muller & Co.
" 50 P. Windmuller & Co.
" 9 Wilkins, Cambell & Co.
Belgium, 25 G. A. Loos & Co.
Germany, 1 3 A. & M. Zimmermann

Sodium Sulphate—
France, 11 c. Mory & Co.

Starch—
Holland, 28 t. 9 c. W. H Muller & Co.
" 21 J. Barber & Co.
" 1 12 Burgoyne & Co.
" 35 Little & Johnston
" 3 17 Robinson, Roberts & Co.
" 1 Phillipps & Graves
Belgium, 2 J. Harrison
" 5 Kearley & Tonge
" 9 15 E. T. Pink
" 1 10 G. W. Sheldon
Aust. Hung., 2
France, 7 C. E. Wood
" 5 10 A. C. Hitchcock
France, 1 Kay & Mayo
" 1 C. E. Wood
" 11 Sollas & Son

Stearine—
Belgium, 8 cks. J. N. Baker
Holland, 26 bls. W. H. Muller & Co.

Strontium Nitrate—
Germany, £58 Jessop & Co.

Sulphur—
Italy, 20 t. Erith & Dartford L. Co.
" 52 Jessop & Co.
" 40 Fuerst Bros.
" 10 Thames S. T. & L. Co.
" 50 15 c. H. G. Thomas

Sulphur Chloride—
Germany, £63 Typke & King

Tallow—
Victoria, 428 cks. Mordaunt Bros.
" 34 Hill & Sons
N.S.W., 152 W. H. Muller & Co.
" 58 J. Greig
" 20 H. Kent
" 100 Clyde Shipping Co.
" 54 Humphery & Co.
" 121 France, Fenwick & Co.
" 16 Anning & Cobb
" 81 Lucas & Spencer's Wf.
" 48 Bessler, Waechter & Co.
N. Zealand, 187 Leach & Co.
" 421 Dalgety & Co.
" 63 Thornett & Fehr
" 139 Bank of N.Z.
" 3 Sanderson, Murray & Co.
" 586 J. Owen
" 29 Morrison & Co.
" 264 L. & I. D. Jt. Co.
" 10 Weber, Smith & Hoare
" 715 N.Z., L. & M.A. Co.
" 12 Flack, Chandler & Co.
" 178 Goad, Rigg & Co.
" 36 Phillipps & Graves
France, 13 bgs. Hill & Sons

Tar Oil (Wood)—
N. Russia, £640 Linck, Moeller & Co.

Tartaric Acid—
France, 4 cks. B. & F. Wf. Co.
Holland, 2 F. C. Devon & Co.
" 12 Kirkpatrick, Barr & Co.

Tin Ore—
Spain, 6 t. Hoare, Wilson & Co.
P. E. Africa, 36 Bullard, King & Co.

Turpentine—
N. Russia, 200 brls. London Oil Storage Co.
U.S.A., 100 "
" 2,300 Goodlake&Nutter
" 3,000 Prod. Broker Co.
N. Russia, 991 gals. C. Price & Co.
" 500 Goodlake&Nutter
France, 99 brls. J. Watt & Son
N. Russia, 12 W. Freedman
" 931 P. J. Danischewsky

Ultramarine—
Holland, 18 cks. 7 cs. W. Harrison & Co.
Belgium, 4 L. Berger & Son
" 4 J. Harrison
Holland, 14 1 W. H. Muller & Co.
Germany, 10 Argo S.S. Co.

Wax—
Germany, 13 pks. T. H. Lee
" 226 bgs. "
" 53 Prop. Hay's Wf.
" 12 L. & I. D. Jt. Co.
" 30 London & Rhine S. Office
E. Indies, 18 L. & I. D. Jt. Co.
Morocco, 102 pks Forwood
" 5 serons Bros. & Co.
Holland, 20 bgs. W. H. Muller & Co

White Lead—
Holland, 10 cks. Spies, Bros. & Co.
Germany, 68 "
Belgium, 46 G. Farmiloe&Son
" 85 T. & M. Farmiloe
" 9 brls. J. L. Lyon & Co.
U.S.A., 71 cks. Fenner, Alder & Co.
Germany, 44 Bandall Bros.

Wolfram Ore—
Spain, 22 t. Hoare, Wilson & Co.

Zinc Ashes—
Swdeen, 14 t. A. Cartledge

Zinc Oxide—
Germany, 73 cks. Weber, Smith & Hoare
Belgium, 30 J. L. Lyon & Co.
U.S.A., 800 brls. M. Ashby, Ld.

Zinc White—
N.S.W., 125 cks. Spies, Bros. & Co.
" 30 Gibbs & Son
Holland, 10 W. H. Muller & Co.
Germany, 25 M. Dk. Co.

LIVERPOOL.

Week ending August 24.

Aluminium—
Quebec, 165 bxs.
Havre, 250 bgs. Cunard S.S. Co., Ld.

Antimony—
Mollendo, 56 bgs.

Barium Sulphate—
Antwerp, 105 cks. 110 bgs.
Bordeaux, 100

Barytes—
Antwerp, 20 cks.

Beeswax—
Hamburg, 15 pks.

Bone Dust—
Zarate, 1,261 bgs.

Bones—
Zarate, 262 bgs.

Citric Acid—
Bordeaux, 30 cks.

Coal Products—
Aniline Colours
Rouen, 50 cks.
Aniline Dye
Boston, 8 brls. Boston Blackg. Co.

Colours—
Antwerp, 25 cks.
Hamburg, 4

Cottonseed Oil—
New York, 150 brls.

Cream of Tartar—
Almeria, 13 cks.
Bordeaux, 24
Marseilles, 5 brls.

Dried Blood—
B. Ayres, 685 bgs.
Zarate, 464

Dyestuffs—
Dyewood Extract
Phila'phia, 60 cks. 100 bxs. 450 brls.
Extracts *(otherwise undescribed)*
Antwerp, 5 cks.
Quebrache Extract
B. Ayres, 2,818 bgs.
Tannin Extract
Bordeaux, 506 cks. R. J. Francis & Co.
" 152

Formaldehyde—
Hamburg, 5 cbys.

Glue—
Fiume, 100 bls.
Hamburg, 104 bgs.
Rotterdam, 1 ck.
Marseilles, 20

Lithopone—
Rotterdam, 60 cks.

Manganese—
Bremen, 4 cks.
Poti, 2,000 t.

Manganese Ore—
Bombay, 2,108 t.

Manganese Silico—
Bordeaux, 108 cks.

Mineral White—
Bordeaux, 500 bgs. R. J. Francis & Co.
" 400

Olive Oil—
Bari, 12 brls.
Marseilles, 128 cs.

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Olive Oil—
Seville, 840 cs. 6 brls.

Oxalic Acid—
Hamburg, 5 cks.

Paraffin Scale—
Rangoon, 400 bgs.
New York, 782 brls. Anglo-American Oil Co.

Paraffin Wax—
New York, 125 bgs.

Potash—
Rouen, 42 cks.
Hamburg, 43

Potash Lye—
Hamburg, 25 dms.

Potassium Permanganate—
Hamburg, 20 kgs.

Potassium Prussiate—
Hamburg, 7 cks.

Pyrites (Iron)—
Seville, 244 t.
Huelva, 2,663

Rosin—
Bordeaux, 298 cks.
Seville, 90 R. Levita & Co.

Rubber—
N. York, 1 brl. 80 cs.
Boston, 51
Colombo, 21 pks.
Winnebah, 3 cks. Millers, Ld.
Lahou, 11 Cie Franc. de K.
" 3 R. & W. King
" 1 cs. Lachille Bros.
Monrovia, 2 Liberian Rubber Co.
" 1 brl. Soc. C. Africa
Bathurst, 3 1 A. Cros & Co.
Dakar, 9 cks. 1 bg. Sturken & Co.
Montreal, 26 cs.
Loango, 3 P. Ancel
" 1 Hatton & Cookson
Cape Lopez, 4 "
Coco Beach, 4 "
Kribi, 21 "
" 8 J. Holt & Co.
Eloby, 3 "
Batanga, 17 R. & W. King
Duala, 4 J. Holt & Co.
Victoria, 3 Ambas Bay Tdg. Co.
Calabar, 1 Miller Bros. & Co.
" 3 African Assoc.
Cape Coast, 4 Russell & Co.
" 2 Miller Bros. & Co.
Sekondi, 2 "
Rio del Rey, 1 Woodin & Co.
Sekondi, 1 African Assoc.
" 3 J. P. Werner
Assini, 15 French Co. de K.
" 11 Bunge & Co.
" 1 Edwards Bros.
" 7
Warri, 28 J. Holt & Co.
Benin, 62 Miller Bros. & Co.
" 11 H. Bey & Co.
Saltpond, 1 Millers, Ld.
" 1 Russell & Co.
" 1 African Assoc.
" 1 F. & A. Swanzy
Assini, 5 Cie Franc. de K.
Hamburg, 381 bgs. 62 pks.
Conakry, 7 Victor & Lohman
" 10 Paterson, Zochonis & Co.
" 5 Cie Francaise de Kong
Mollendo, 7 bls. Kleinwort, Sons & Co.

Saltpetre—
Hamburg, 39 pks.

Salt (Waste)—
Hamburg, 5,000 bgs. a qty.

Silver Ore—
Salaverry, 100 bgs. Gruning & Co.
Callao, 800 Steinhardt, Walker & Co.
" 1,180

Soap—
Bari, 673 cs.
Boston, 13 R. Towns & Co.
Havre, 792 pks. Cunard S.S. Co.

Soap—
Newport M., 50 bxs. Lamont, Corliss & Co.

Soap Stock—
Boston, 188 brls.

Soda—
Bordeaux, 1 ck.

Sodium Nitrate—
Iquique, 27,366 bgs.

Starch—
Antwerp, 248 cs.
" 18 Fletcher & Co.
Bremen, 1,500
New York, 225 bgs. Corn Prod. Co.
Fiume, 600 35 bls.

Stearine—
Antwerp, 10 cs.

Sulphur—
Bordeaux, 5 pks.

Tallow—
Galveston, 70 tres.
New York, 950 100 hhds.
Phila'phia, 164 200 brls.
Singapore, 106
Montreal, 5
B. Ayres, 275 cks. G.H. Fletcher & Co.
" 641 387 hf-pps. 140 pps.
" 164 290 111
Zarate, 142

Wax—
Bathurst, 3 bls. Bathurst Tdg. Co.
" 6 A. Cros. & Co.
" 14 C. F. A. Co.
Dakar, 21 A. Cros & Co.
Philadelphia, 611 brls.
Conakry, 4 pks. Victor & Lohman
" 45 Paterson, Zochonis & Co.
" 11 Cie. Franc. de K.
" 16 Soc. Com.
" 7 Diaper & Co.
N. York, 2,216 brls. 400 cs

White Lead—
Rotterdam, 24 cks.

Zinc Chloride—
Bremen, 5 cs.

Zinc Oxide—
New York, 450 brls.

MANCHESTER.

Week ending August 22.

Aluminium—
Treport, 5 cs.

Asbestos—
Rotterdam, 25 crts.

Antimony Salt—
Hamburg, 3 cks.
Rotterdam, 5

Barium Sulphate—
Bordeaux, 50 bgs.

Barytes—
Hamburg, 100 bgs.
Rotterdam, 200 25 cks.

Calcium Carbide—
Fredriksstad, 70 dms.

Carbonic Acid Gas—
Rotterdam, 12 tubes

Chemicals (*otherwise undescribed*)
Gothenburg, 100 bls.
Fredriksstad, 4 cks.
Rouen, 41
Rotterdam. 140 bgs. 4 brls. 14 2 cs. 30 kgs.

Coal Products—
Alizarine
Rotterdam, 281 cks.
Aniline Oil
Rotterdam, 4 dms.
Creosote Salt
Rotterdam, 30 cks.
Betanaphthylamine
Rotterdam, 1 ck.
Beta Naphthol
Rotterdam, 2 cks.
Tar Salts
Hamburg, 11 brls.

Colours—
Rotterdam 11 brls. 311 cks. 25 pks. 18 cs.
Hamburg, 9

Dextrine—
Stettin, 452 bgs.

Dyestuffs—
Indigo Paste
Rotterdam 5 brls. 58 cks. 1 cs.
Tannin
Antwerp, 5 cks.
Tannin Extract
Stettin, 14 cks.

Farina—
Hamburg, 100 bgs.
Rotterdam, 715
Stettin, 3,030
" 1,155 Brown, Geveke & Co.

Ferro Chrome—
Rouen, 63 cks.

Glue—
Antwerp, 20 bls.
Antwerp, 120 bgs.
Ghent, 100
Stettin, 40
Rotterdam, 9 cks.
Rouen, 16 42
Treport, 20

Litharge—
Rotterdam, 60 cks.

Magnesite—
Rotterdam, 160 bgs.

Manganese Ore—
Bombay, 2,000 t. Wigan Coal & Iron Co.
Rio de J., 3,960

Oxalic Acid—
Hamburg, 10 cks.
Rotterdam, 16

Paranitraniline—
Rotterdam, 8 cks.

Potash—
Hamburg, 25 dms.

Potassium Carbonate—
Treport, 20 dms.

Potassium Chlorate—
Treport, 68 cks.

Potassium Permanganate—
Hamburg, 45 kgs.

Potassium Prussiate—
Hamburg, 9 cks.
Rotterdam, 7
Antwerp, 9

Red Lead—
Rotterdam, 15 cks.

Rosin—
Bordeaux, 248 cks.

Saltpetre—
Hamburg, 6 cks.

Salt (Waste)—
Hamburg, 150 t.

Soap Stone—
Bordeaux, 100 bgs.

Sodium Acetate—
Antwerp, 20 cks.

Sodium Arseniate—
Antwerp, 51 kgs.

Sodium Chlorate—
Treport, 48 cks.

Sodium Phosphate—
Antwerp, 17 cs.

Sodium Salt—
Hamburg, 1 ck.

Starch—
Antwerp, 550 cs.
Rotterdam, 140 10 bgs.

Stearine—
Antwerp, 7 bgs.

Turpentine—
Rotterdam, 2 bskts.

Ultramarine—
Rotterdam, 1 ck. 22 cs.

Zinc Oxide—
Antwerp, 21 brls.

Zinc White—
Stettin, 5 cks.
Rotterdam, 11

HULL.

Week ending August 24.

Albumen—
St. Petersb'g, 10 cs. Wilson, Sons & Co., Ld.

Asbestos—
Riga, 26 pks. Wilson, Sons & Co., Ld.

Barytes—
Antwerp, 349 bgs. 32 cks.
" 71 Wilsons & N.E. R. S. Co.
Bremen, 40 Veltmann & Co.
Rotterdam, 100 bgs. Hull & N. S.S. Co.
Amsterdam, 65 "

Calcium Carbide—
Christiania, 20 bxs. Wilson,
" 20 dms. Sons & Co.

Chemicals (*otherwise undescribed*)
Bremen, 1 ck. 5 cs. Veltmann & Co.
Dunkirk, 150 Woodhouse & Co.

Coal Products—
Alizarine
Rotterdam, 26 pks. Hull & N.
" 1 cs. S.S. Co.
Aniline
Rotterdam, 14 cks. Hull & N.
209 pks. S.S. Co.
" 12 cks. 2 cs. R. & B. Rly. S.S. Line
Tar
Helsingfors, 154 brls.

Colours—
Rotterdam, 144 pks. Hull & N. S.S. Co.
Hamburg, 5 G. Malcolm & Son
New York, 500 cs.
Antwerp, 35
" 20 cks. Wilsons & N.E. R. S. Co.
Bremen, 9 Veltmann & Co.

Cream of Tartar—
Rotterdam, 8 cks. Hull & N. S.S. Co.

Cryolite—
Copenhagen, 4 cks.

Dextrine—
Stettin, 100 bgs.
Amsterdam, 40 Hull & N. S.S. Co.

Dyestuffs—
Myrabolans
Bombay, 3,395 bgs.

Farina—
Stettin, 175 bgs.
Harlingen, 100 Hull & N. S.S. Co.

Glucose—
New York, 360 brls.

Glue—
Danzig, 40 bgs. Wilson, Sons & Co., Ld.
Rotterdam, 5 Hull & N. S.S. Co.

Lactic Acid—
Rotterdam, 25 cks. Hull & N. S.S. Co.

Lithopone—
Rotterdam, 114 cks. Hull & N. S.S. Co.

Oleine—
Antwerp, 8 cks. Wilsons & N.E. R. S. Co.

Paraffin Scale—
New York, 827 brls.

Phosphate—
Dunkirk, 500 bgs. 200 t.
Ghent, 50

Plumbago (Earth)—
Bremen, 20 cks. Veltmann & Co.

Potash—
Dunkirk, 20 dms.
Bremen, 100 cs. Veltmann & Co.

Red Lead—
Rotterdam, 26 cks. Hull & N. S.S. Co.

Rosin—
Rotterdam, 34 cks. Hull & N. S.S. Co.

Starch—
Bremen, 1,486 cks. Veltmann & Co.
Antwerp, 40 cs.
New York, 110 bxs.

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Starch—
Amsterdam, 20 bxs. Hull & N. S.S. Co.
Ghent, 48 cs. Wilsons & ,, 40 N.E. R. S. Co.
Antwerp, 20

Ultramarine—
Ghent, 8 cks. Hull & N. S.S. Co.

Wax—
New York, 342 brls.

White Lead—
New York, 18 brls.
Rotterdam, 12 cks. Hull & N. S.S. Co.

Zinc White—
Rotterdam, 5 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending August 29

Acetic Acid—
Rotterdam, 40 cks.
Christiania, 10 brls.

Ammonium Oxalate—
Hamburg, 9 cks.

Barytes—
Hamburg, 100 bgs.
Rotterdam, 62 pks.

Calcium Carbide—
Gothenburg, 230 dms.
Christiania, 50

Ceresine—
Hamburg, 46 bgs.

Chromium Oxide—
Rotterdam, 6 cks.

Coal Products—
Alizarine
Rotterdam, 58 cks.
Aniline
Rotterdam, 1 cs.
Paranitraniline
Rotterdam, 16 brls.
Pitch
Archangel, 3,200 cks. Young, Cassells & Co.
Tar
Archangel, 500 cks. Young, Cassells & Co.

Colours—
Rotterdam, 95 pks.

Dyestuffs—
Indigo Paste
Rotterdam, 20 brls.

Farina—
Hamburg, 30 bgs.

Glucose—
Rotterdam, 10 cks.

Glue—
Fiume, 200 bgs.
Montreal, 9 brls.

Linseed Oil—
Amsterdam, 29 brls.
Rotterdam, 54

Litharge—
Rotterdam, 19 cks.

Magnesia—
Hamburg, 1 cs.

Magnesite—
Hamburg, 575 bgs.

Magnesium Chlorate—
Hamburg, 190 cks.

Mineral Wax—
Hamburg, 20 cs.

Mineral White—
Trieste, 1,000 bgs.

Paraffin Wax—
Montreal, 135 brls.

Potash Lye—
Hamburg, 30 dms.

Potassium Muriate—
Hamburg, 3,000 bgs.

Potassium Prussiate—
Hamburg, 6 cks.

Rosin—
Hamburg, 604 bgs.

Salicylic Acid—
Rotterdam, 1 cs.

Soap—
Bari, 77 cs.

Soap Powder—
Rotterdam, 6 cs.

Strach—
Fiume, 25 bgs.
Rotterdam, 300 cs.
Antwerp, 40

Tartaric Acid—
Rotterdam, 8 cks.

Tin Oxide—
Rotterdam, 9 cks.

Ultramarine—
Rotterdam, 4 cs.

White Lead—
Rotterdam, 89 cks.

Zinc Oxide—
Rotterdam, 1 ck.

Zinc White—
Rotterdam, 8 cks.

TYNE.

Week ending August 24

Acetic Acid—
Rotterdam, 116 cks. Tyne S.S. Co.

Aluminium—
Hamburg, 4 cks.

Alum (Earth)—
Hamburg, 52 cks.

Antimony—
Hamburg, 1,099 bars Tyne S.S. Co.

Asbestos—
Rotterdam, 6 crts. Tyne S.S. Co.

Colours—
Antwerp, 26 brls. Tyne S.S. Co.
Hamburg, 2 cks. ,,
,, 24 dms. ,,

Copper Oxide—
Hamburg, 36 dms. Tyne S.S. Co.

Gelatine—
Hamburg, 1 cs. Tyne S.S. Co.

Infusorial Earth—
Hamburg, 412 bgs. Tyne S.S. Co.

Soda Crystals—
Ghent, 200 bgs. Tyne S.S. Co.

Starch—
Bremen, 1,486 cs. Veltmann & Co.
Amsterdam, 20 bxs. Hull & N. S.S. Co.
Antwerp, 40 cs.
New York, 110 bgs.
Ghent, 84 cks.
Rotterdam, 66 cs. Tyne S.S. Co.

Tartar—
Rotterdam, 8 cks.

White Lead—
Rotterdam, 12 cks. Tyne S.S. Co.

Zinc White—
Antwerp, 20 brls. Tyne S.S. Co.

GOOLE.

Week ending August 24.

Aluminium Sulphate—
Ghent, 4 cks.

Antimony—
Boulogne, 1 ck.

Barytes—
Rotterdam, 62 cks. 100 bgs.

Bog Ore—
Delfzyl, 100 t.

Caoutchouc—
Boulogne, 4 cks.

Caustic Potash—
Hamburg, 40 dms.

Chemicals (*otherwise undescribed*)
Antwerp, 480 bgs. 10 cs. 34 dms. 12 brls.
Rotterdam, 25 cks.
Hamburg, 22 5 cs.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 325 bgs. 8 brls. 1 cs.
Boulogne, 285 cks. 2 pks.
Hamburg, 158 9
Rotterdam, 328 40

Dyestuffs—
Logwood
Monte Christi, 500 t.

Farina—
Delfzyl, 365 bgs.

Glue—
Hamburg, 200 bgs.
Dunkirk, 29 cks.
Antwerp, 5

Oxalic Acid—
Hamburg, 5 cks.

Phosphate of Lime—
Boulogne, 915 bgs.

Plumbago—
Boulogne, 1 ck.

Potash—
Dunkirk, 4 cks. 40 dms.

Pyrites (Iron)—
Seville, 1,150 t.

Salt (Waste)—
Hamburg, 200 t. 1,000 bgs. 25 cks.

Soap—
Boulogne, 8 cks.

Starch—
Ghent, 8 cs.

Stearine—
Antwerp, 6 brls.

Wolfram—
Rotterdam, 7 cs.

GRIMSBY.

Week ending August 21.

Acetone—
Helsingborg, 2 dms.

Albumen—
Hamburg, 5 cks.

Aluminium Chloride—
Hamburg, 1 ck.

Barytes—
Rotterdam, 257 bgs.

Caoutchouc—
Antwerp, 4 cs.
Hamburg, 30 7 pks.

Chemicals (*otherwise undescribed*)
Hamburg, 1 cs.

Coal Products—
Naphthaline
Antimony, 14 pks.

Colours—
Antwerp, 124 pks.
Hamburg 2 cks. 13 cs.
Rotterdam, 1

Dyestuffs
Extracts (*otherwise undescribed*)
Antwerp, 3 cks.

Glue—
Hamburg, 200 bgs.

Rosin—
Hamburg, 1 ck.

Sodium Phosphate—
Antwerp, 17 cs.

Starch—
Antwerp, 340 cs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending August 30

Alcohol (Wood Spirit)—
Paris, 810 gals.

Alum—
Hamburg, 1 t. £7

Ammonia—

Bombay,	5 cs.	£8
Algoa Bay,	2	6
Cape Town,	4	6
Port Sudan,	4	6
Limon,	11 cylds.	110
Gibraltar,	21	9
B. Ayres,	20	30
Durban,	5	15
Madras,	10	15
Lisbon,	2	6
E. London,	5	8

Ammonia (Anhydrous)—
Delagoa Bay, 6 cylds. £70

Ammonium Carbonate—

Bombay,	2 cs.	£8
Wellington,	1	5
Newcastle,	100	160

Ammonium Muriate—

Dusseldorf,	2 t.	1 c.	£47
Cologne,	5	13	136
Havana,		5	7
Melbourne,	2		49
Cuba,		5	7

Ammonium Sulphate—

Madeira,	20 t.	11 c.	£245
Yokohama,	100		1,162
Kobe,	100	1	1,200
Madras,	5	6	70
Hiogo,	100		120
Axim,		3	6
Rouen,	19	14	230
Hamburg,	125	1	1,475
Colombo,	30	11	363
Mauritius,	50	1	610
St. Lucia,		10	6

Antimony (Regulus)—
Konigsberg, 3 t.
St. Petersb'g, 50

Arsenic—
Singapore, 8 kgs. £18

Asbestos—
Sydney, £119

Barium Binoxide—

Paris,	10 t.	15 c.	£366
Boston,	6	3	210

Basic Slag—
Lisbon, 48 t. 7 c. £100

Bisulphite of Lime—
Bombay, 1 t. 14 c. £56

Bones—
Channel Is., 2 t. £7

Borax—

Calcutta,	2 t.		£22
Sekondi,		10 c.	32

Calcium Carbide—

Singapore,		6 c.	£6
Lagos,		1	8

Calcium Phosphide—
Valparaiso, 1 t. £145

Caustic Soda—

Hamburg,	9 t.	3 c.	£166
Zanzibar,	2		21

Chalk—
Yokohama, 2 t. 10 c.

Chemicals (*otherwise undescribed*)

Amsterdam,	25 cks.	1 bx.	£42
Barcelona,	120		180
Callao,		1 cs.	16
Delagoa Bay,	10 kgs.		
	2	40	89
Hamburg,	5		8
Montreal,	25	29	179
Toronto,	84		176
Rotterdam,	5	1	28
Antwerp,		20	35
Lagos,		2	5
Rangoon,		6	14
Bordeaux,	10		6
Madras,	8 pks.	5	56
Beira,		3	6
Ostend,		5	100
East London,		1	9
Rio de Jan.,		35	128
Boston,		2	10
Colombo,		3	16
Mossel Bay,		1	8
Brussels,		1	22
Christiania,		1	15
Bergen,	1 ck.		48
Cape Town,		2	12
Bremen,		2	17

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Citric Acid—
Aden, 1 c. £12
Bermuda, 4 47
Limon, 1 11
Amsterdam, 6 41
Durban, 1 6
Calcutta, 1 10
Gisborne, 1 cs. 5
Hamburg, 9 71
Montreal, 11 100
Bombay, 2 18
Wellington, 3 31
Greymouth, 1 ck. 12
Christchurch, 1 5

Coal Products (*otherwise undes.*)—
Cape Town, 211 pks. £7

Coal Products—
Alizarine
Rouen, 4 cks. £131
Madras, 61 196
Tuticorin, 37 293
New York, 5 129
Aniline Dye
Adelaide, 1 cs. £7
Boulogne, 1 kg. 11
Anthracene
Cologne, 325 cks. £351
Benzol
Paris, 50 cks. £100
Treport, 93 125
Piræus, 5 dms. 15
Carbolic Acid
Durban, 2 cs. £10
Amsterdam, 49 cks. 166
Beira, 1 11
Carbolic Acid (Powder)
Calcutta, 3 cs. £11
Cresote
Boston, 50 cks. £84
Naphthaline
Shanghai, 50 cs. £75
N. Orleans, 123 cks. 128
Pitch
Rotterdam, 111 bgs. £50
Hamburg, 58 brls. 80
Malta, 50 15
Phila'phia, 115 cks. 56
Abo, {200 / 220 t. 578
Pyridine
Hamburg, 5 dms. £105
Tar
Aden, 10 cks. £9
Abo, 975 559
H. Kong, 30 dms. 16
Durbar, 30 150 kgs. 28
Algoa Bay, 400 250 25
Stettin, 25 brls. 15
Sekondi, 6 6
Tar Oil
Gothenb'rg, 200 cks. £140
Hamburg, 100 brls. 53
Toluol
Cologne, 19 dms. £150

Copperas—
Cape Town, 20 kgs. £5

Copper Sulphate—
St. Petersburg, 5 t. £153

Cottonseed Oil—
Bordeaux, 10 t. 15 c.
Genoa, 14 12
Hamburg, 5 6
Newcastle, 12 19
Rotterdam, 60 5

Cream of Tartar—
Melbourne, 1 t. £80

Cyanide (*otherwise undescribed*)—
New York, 5 t. £380

Disinfectant—
Madras, { 2 cks. 105 dms. / 20 bgs. £37
Montreal, 4 cs. 10
Calcutta, 320 79
Cologne, 5 cs. 88
Singapore, 3 27
East London, 3 220 81
Cape Town, 75 510 256
Delagoa B. 100 250 326
Labuan, 32 10
Adelaide, 6 9
Rio de Jan., 24 6
Shanghai, 4 20 26
Rangoon, 20 100 290
Bombay, 5 118
Durban, 125 43
Christchurch, 2 7
Santos, 6 32
Copenhagen, 23 10 23
Sydney, 5 kgs. 2 28

Glycerine—
Shanghai, 1 t. £52
Havana, 5 c. 21
Bombay, 10 19
Algoa Bay, 7 20

Hydrocarbon—
Brussels, 28 dms. £335

Hydrochloric Acid—
Colombo, 13 cs. £13

Iron Sulphate—
Durban, 1 cs. £10

Lead Chloride—
Brussels, 1 bx. £1

Linseed Oil—
Adelaide, 4 t.
Bilbao, 8 7 c.
Brussels, 20 1
Kobe, 32 6
Paranagua, 2 14
Penang, 2 17
Pernambuco, 18
P. Elizabeth, 5 6
P. Said, 10
Rio Grande, 1 15
Santander, 1 18
Shanghai, 2
Sierra Leone, 1 3
Stockholm, 1 14
Sydney, 12 15
Tokio, 2
Alexandria, 2 8
B. Ayres, 4 7
C. Town, 16
Durban, 1 7
Halifax, 16 2
H. Kong, 1 5
Lisbon, 8
Mauritius, 1 5
Melbourne, 14 13
Nagasaki, 13
Oporto, 2 19
Rio de Jan., 37 13
Rosario, 5
Santos, 4 14
Singapore, 1 16

Manure—
Bushire, 10 c. £5
Landerneau, 98 t. 1 735
Wellington, 140 420
Mauritius, 189 16 1,415
Trinidad, 100 275
Cape Town, 8 4 35
Auckland, 25 255
Hawkes Bay, 61 1 200

Manurial Salts—
Boston, 2 cs. £72

Muriatic Acid—
Rio de Jan., 7 c. £12

Nitric Acid—
Bombay, 61 cs. £87
Algoa Bay, 2 c. 5
Cape Town, 3 10
Rio de Jan., 2 7

Oxalic Acid—
Algoa Bay, 3 cks. £6

Phosphoric Acid—
Lisbon, 2 cks. £18

Phosphorus—
Melbourne, 10 cs. £64
Kobe, 2 t. 4 c. 440
Yokohama, 13 135

Plumbago—
Brussels, 1 t. 1 c.
Nagasaki, 9 7

Potash—
Brussels, 13 c. £48

Potassium Carbonate—
Calcutta, 6 c. £10

Potassium Chlorate—
Calcutta, 1 t. £32

Potassium Cyanide—
Calcutta, 9 c. £15

Potassium Permanganate—
Calcutta, 1 t. 3 c. £42

Quinine—
Calcutta, 20,000 ozs.
Constantinople, 5,295

Salammoniac—
Antwerp, 10 brls. £39
Bagdad, 2 t. 77

Saltpetre—
Melbourne, 1 t. 14 c. £43
Hamburg, 2 52
Ghent, 15 20
Santos, 2 13 98
Rio de Jan., 2 13 71
Syria, 1 7 33
Algoa Bay, 15 cs. 8
Oporto, 1 18 49

Saltpetre (Crystals)—
Cape Town, 5 bgs. £12

Sheep Dip—
B. Ayres, { 1,200 dms. / 550 cs. £1,312
Punta Aren., 15 t. 2 c. 425
Wellington, 160 76

Soap—
Aden, 1 t. 4 c.
Bremen, 6
Brussels, 2
Calcutta, 2 13
Delagoa Bay, 5
Fremantle, 9
Hamburg, 6
Limon, 3
Lisbon, 4
Madras, 6 5
Malta, 2
Melbourne, 3 17
Montreal, 3
Penang, 1 12
P. Elizabeth, 1 7
St. Petersburg, 8
Shanghai, 15
Singapore, 2
Sierra Leone, 6
Sydney, 3
Tokio, 5
Valparaiso, 3
Yokohama, 8
Karachi, 4
Kobe, 8
Alexandria, 3
Bombay, 2 5
C. Town, 1
Demerara, 7
Durban, 10
E. London, 1
Ghent, 11
Gibraltar, 12
H. Kong, 1
Iquique, 3
Mauritius, 3
New York, 1
P. Sudan, 1
Rangoon, 2
Rio de Jan., 2
Sekondi, 1
Toronto, 10
Wellington, 3
Flushing, 2

Soda—
Channel Is., 30 t. £105

Sodium Arsenite—
Delagoa Bay, 1 t. £37

Sodium Bicarbonate—
Cape Town, 7 c. £17

Sodium Peroxide—
Melbourne, 10 c. £65

Sodium Prussiate—
Cologne, 9 c. £15

Sodium Sulphate—
Melbourne, 1 t. 19 c. £38

Starch—
Colombo, 2 t. 6 c.
Paris, 10
P. Elizabeth, 3 11
Sydney, 7 5
Delagoa Bay, 1 7
Durban, 2 8
E. London, 9
Gisborne, 1
Ibrail, 4

Sulphur—
Algoa Bay, { 100 cs. / 7 t. 19 c. £127
Melbourne, 2 3 19
Cape Town, 26 16 289

Sulphuric Acid—
Santos, 1 t. 10 c. £34
Calcutta, 1 2 17
Algoa Bay, 3 6
Barbadoes, 3 15 —
Sekondi, 2 10
Rio de Jan., 8 12
Channel Is., 18 10
Demerara, 7 10 25
Antwerp, 3 6

Superphosphate—
Kobe, 10 t. £270
Lyttelton, 50 159

Superphosphate of Lime—
Lisbon, 295 t. 1 c. £731

Tallow—
Libau, 10 t.
Riga, 4 16 c.
Rotterdam, 20 3
Amsterdam, 4 17
Brussels, 33 12
Hamburg, 26 10
St. Petersb'g, 24 15
Stockholm, 1 5

Tartaric Acid—
Madras, 1 ck. £14
New York, 2 c. 13
East London, 3 20
Invercargill, 2 14
Greymouth, 1 6
Christchurch, 1 6

Wax—
Stockholm, 3 t. 10 c.

White Lead—
Adelaide, £699
Port Elizabeth, 86
Durban, 12
Hong Kong, 62
Madras, 25
Melbourne, 1,098
Montreal, 2,187
Singapore, 64
Sydney, 1,301
Shanghai, 55

LIVERPOOL.

Period ending August 28.

Acetic Acid—
Algoa Bay, 3 c. £9
Auckland, 1 t. 10 39

Albumen—
Santos, 19 c. £58

Alum—
Sekondi, 2 kgs. £1
C. Coast, 2
Natal, 5 c. 2
Bombay, 1 t. 2 7
Algoa Bay, 1 13 11
Sydney, 1 7
Piræus, 2 3 11
Canea, 1 3 7
Santos, 6 18 40
Bahia, 1 17 10
Bourgas, 2 18 17
La Libertad, 1 6
C. Town, 1 6
Varna, 8 40

Alum (Waste)—
Montreal, 16 t. 7 c. £48

Aluminium Sulphate—
Sydney, 24 t. 19 c. £125
Halifax, 1 1 6

Ammonia—
M. Video, 3 cs. £3

Ammonium Carbonate—
Lisbon, 1 t. £32
Bordeaux, 19 c. 31
Genoa, 3 7 108
Venice, 1 17 65
Leghorn, 17 30
Gothenburg, 1 15 58
Stockholm, 4 136
Talcahuano, 1 7 47
Marseilles, 17 30

Ammonium Liquid—
St. Johns, N'fld., 1 cs. £1

Ammonium Muriate—
Genoa, 6 t. 1 c. £146
Stockholm, 3 72
Hamburg, 1 16 28
Quebec, 1 12 11

Ammonium Sulphate—
Seville, 20 t. £240
Las Palmas, 269 10 c. 828
Hamburg, 50 600
Bordeaux, 5 60
Valencia, 219 2,576
P. Natal, 50 603
N. York, 37 9 444
Teneriffe, 26 311
Calcutta, 6 36
Nantes, 65 730
Kobe, 149 10 1,944
Cartagena, 30 360
Valencia, 25 300
Lisbon, 49 596

Ammonium Vanadiate—
Rio de Jan., 1 cs. £18

Antimony—
Stockholm, 10 cks.

Arsenic—
Tharol, 10 £20

Asbestos—
Constantinople, 3 cs.

Basic Slag—
Colombo, 8 t. £20
Venice, 100 10 c. 201
Christiania, 100 150
Calcutta, 210 582

Bleaching Powder—
Bombay, 25 cs. 37 dms.
Boston, 691 cks.
Brisbane, 40
Calcutta, 585
Hamburg, 30
Philadelphia, 23
Piræe, 20
Portland, 248
Rio de Jan., 19

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Bleaching Powder—
Alexandria, 15 cks.
Montreal, 156 16 pks.
New York, 13 35 brls.
Seville, 45
Las Palmas, 6
Melbourne, 62 drms.

Borax—
Callao, 1 c. £3
Alexandria, 1 t. 15
Cienfuegos, 2 30
Santiago, 1 15
Hevana, 2 30
Matanzas, 1 19 45
Vera Cruz, 10 319
Tampico, 4 18 77
Hsin Ho Wharf, 1 cs. 1
Dunedin Wf., 2 10 c. 40
Wellington, 2 41
Brisbane, 5 80
New York, 21 19 320
Boston, 29 3 460
N. Orleans, 4 3

Calcium Carbide—
Sekondi, 10 c. £2
Cape Town, 1 cs. 1
St. Thomas, 6 5

Calcium Chloride—
Genoa, 10 t. £20
Rangoon, 5 8 c. 11
Perth, 10 4 20
Fremantle, 5 2 10
Bombay, 6 10 13
Montreal, 6 11 13
Sydney, 15 48
Natal, 3 6 9
Lagos, 11 2
Constanti'ple, 3 6 9
New York, 6 9 15
C. Town, 3 5 7

Calcium Sulphydrate—
Antwerp, 20 t. 10 c. £85

Carbonate of Lime—
New York. 8 t. £92

Carbonic Acid Gas—
B. Ayres, 1 cs. £8

Castor Oil—
Axim, 10 drms.
Lisbon, 1 brl.
Maranham, 20

Caustic Potash—
Montreal, 10 c. £15
Hsin Ho Wharf, 1 cs. 1

Caustic Soda—
Auckland, 27 pks. 2 cs. 64 drms.
Bangkok, 50
Barcelona, 48 12 brls.
60 cks. 12
Bombay, 163
Brazil, 20
Brisbane, 50 cs.
B. Ayres, 168 25
Chemulpo, 8
Gefle, 252
Genoa, 36
Gothenburg, 90
Hamburg, 15
Limon, 83
Melbourne, 6
Para, 15
Paranagua, 155
Progresso, 69
Rangoon, 5
Rio de Jan., 27
Rotterdam, 80
Shanghai, 82
Sydney, 380
Tampico, 6
Wellington, 10
Adelaide, 50
Boston, 119
E. London, 102
Fremantle, 180
Havre, 493
Karachi, 40
La Guayra, 151
Lisbon, 25 brls. 8
Malaga, 10 pks. 355
Montreal, 46
Naples, 110
Padang, 4
P. Elizabeth, 200 brls.
P. Alegre, 100
Santander, 583
Seville, 20
Sourabaya, 206
Valparaiso, 13
Vigo, 395
Bahia, 140
Braila, 30
Calcutta, 51
Catania, 5
Ceara,

Caustic Soda—
Cebu, 10 drms.
Galveston, 105
Kobe, 774
Malmo, 6
Para, 5
Rouen, 75
Santos, 101
Talcahuano, 29
Tunis, 6
Valencia, 70
Vera Cruz, 35

Chemicals (*otherwise undescribed*)
Antwerp, 6 cks. £24
Dunedin, 30 kgs. 26
Kobe, 56 cs. 50
Sydney, 4 40 50
Hamburg, 5 43
Montreal, 75 10 pks. 50 brls. 534
Sekondi, 40 320
Algoa Bay, 4 11
Venice, 10 51
Bombay, 2 cks. 3
Gijon, 1 10
Lisbon, 76 125
Sydney, 7 7
Bilbao, 1 bx. 3
Calcutta, 246½ trcs. 2,504 slbs. 3 0

China Clay—
Bltim're, 287 t. 1,997 cks.
Bilbao, 286
Boston, 500 260 bxs.
Calcutta, 150 100 cs.
New Orleans, 75 t. 7 c.
New York, 280 cks.
Portland, 1,558
Bombay, 980
Genoa, 100
Montreal, 1,042 485 bgs.
Phila'phia, 300
B. Ayres, 8
Galatz, 50
Madras, 220
Newport N., 200
Rio de Jan., 99
Vera Cruz, 52

Chromium Acetate—
Piræus, 9 c. £23

Coal Products—
Alizarine
Santos, 3 brls.
Alizarine Oil
Lisbon, 2 brls.
Aniline Colour
Boston, 10 cks.
Aniline Salt
Alexandria, 10 cks.
Bombay, 2 brls.
Constantinople, 5 kgs.
Carbolic Acid
Sydney, 5 c. £4
Quebec, 1 k 2
Rotterdam, 13 t. 5 730
Carbolic Acid (Liquid)
Pernambuco, 2 drms. £2
Madras, 11 c. 24
Carbolic Acid (Solid)
Seattle, 4 t. 10 c. £188
New York, 20 2 1,126
Bordeaux, 12 btls. 11
Barcelona, 10 26
Creosote Salt (Waste)
Bombay, 81 bgs.
Pitch
Corral, 50 brls.
Tar Oil
Copenhagen, 15 drms.

Colours—
Bordeaux, 2 bxs.

Copperas—
B. Ayres, 2 t. 10 c. £6

Copper Sulphate—
Stettin, 8 t. 13 c. £246
S. Cruz, 10 15
Canaria, 10 15
Marseilles, 7 9 230
Hamburg, 1 1 29
Cairo, 10 15
Constanti'ple, 1 15 53
Palermo, 10 273
Sourabaya, 8 4 227
Bordeaux, 9 14 276
Riga, 19 27
Konigsberg, 1 3 29
Catania, 10 5 285
Rotterdam, 2 1 54
Galatz, 7 2 195
Trebizonde, 9 14
Bourgas, 1 10 40
Constanta, 1 29
Braila, 2 19 75
Teneriffe, 4 8

Copper Sulphate—
Auckland, 10 c. £15
Calcutta, 5 t. 145
Mollendo, 18 26
Sapeli, 1 2
Barcelona, 3 18 97

Cottonseed Oil—
Bassam, 8 brls.
Sierra Leone, 15
Bordeaux, 14
Dakar, 60
Oran, 10
Rufiscus 10
Valparaiso, 200 drms.
Algiers, 25
Marseilles, 1,660

Cream of Tartar—
Talcahuano, 1 cs. £4

Disinfectants—
Sydney, 3 t. 4 c. £113
Rangoon, 4 15
P. Novo, 1 kg. 1
Natal, 100 drms. 66
Launceston, 9 cs. 11
Montego Bay, 10 3
Calcutta, 20 cks. 20 64
Alexandria, 20 35
Melbourne, 20 13
Bombay, 100 62

Dyestuffs—
Tannin Extract
Copenhagen, 115 cks.

Fluoric Acid—
Demerara, 1 c. £2

Formic Acid—
Rio de Jan., 1 ck. £3

Glue—
H. Kong, 40 tins.
Havre, 5 cs.
Belize, 1 ck.
New York, 150 bgs.
Shanghai, 40

Gluestock—
Boston, 18 bls.

Glycerine—
Venice, 19 c. £45
Victoria, 20 t. 15 841
P'delphia, 40 15 1303
Yokohama, 7 17 331
Kobe, 4 16 226
Natal, 1 4
Barbadoes, 1 3
Hiogo, 9 13 421
Montreal, 10 16 473
Adelaide, 1 54
Halifax, 1 46
Talcahuano, 18 46

Lead Acetate—
Kerasunde, 5 c. £9

Lead Nitrate—
New York, 11 t. 1 c. £275

Linseed Oil—
Alexandria, 163 brls.
Antwerp, 4
Gibraltar, 5 cks.
Las Palmas, 11
Oporto, 2
Rio de Jan., 1 cs.
St. Johns, 60 drms.
Smyrna, 5
Victoria, 6 10
B. Ayres, 51
Callao, 400 797
Champerico, 10 cs.
Cienfuegos, 6 60
Demerara, 10
Galatz, 36
Hamburg, 2
Hsin Ho Wf., 509 pks.
Kingston, 45 drms.
Manaos, 40
Matanzas, 2
P. Cabello, 20
Salonica, 6
Sydney, 12
Trieste, 5
Valparaiso, 900
Adelaide, 100
Bahia, 12
Beyrout, 22
Ceara, 10
Corfu, 7
Guayaquil, 45
Havana, 38 20
Kingston, 10
La Guayra, 4
Lisbon, 27
Manaos, 10 210
Pacasmayo, 25
Para, 2 5
San Jose, Savanilla, 2 hhds.

Linseed Oil—
S. Leone, 50 drms.
Taltal, 65
V. Cruz, 5 cs. 75
Volo, 5
Victoria, 10

Magnesia—
Fremantle, 5 t. £87
B. Ayres, 4 c. 16
Lisbon, 1 18
New York, 2 8

Magnesium Carbonate—
Havre, 2 t. 10 c. £50
Barcelona, 19 17
Odessa, 2 1 40
Cape Town, 5 2 95

Magnesium Chloride—
Smyrna, 1 t. 1 c. £4

Magnesium Dioxide—
Calcutta, 10 c. £5

Magnesium Fluid—
Adelaide, 16 c. £42

Magnesium Sulphate—
New York, 20 t. 12 c. £260

Manure—
Rangoon, 4 c. £4

Nitric Acid—
M. Video, 1 c. £3

Oleine—
Barcelona, 6 brls.

Oxalic Acid—
Montreal, 2 t. £70
Boston, 16 c. 27

Paraffin Wax—
Bari, 91 bgs.
Odessa, 10
Pernambuco, 8 brls. 10 cs.
Genoa, 25
Piræus, 10
Rio de Jan., 30 cks.
Barranquilla, 60 bls.

Phosphate—
Melbourne, 1 t. 10 c. £44

Phosphorus—
Hiogo, 18 c. £135
Kobe, 2 t. 19 320
Shanghai, 1 15 260
Seville, 19 110

Potash—
Para, 1 t. £8

Potassium Bichromate—
Varna, 16 c. £27

Potassium Chlorate—
S. Petersburg, 30 t. 10 c. £914
Fiume, 5 144
Pasages, 3 96
Venice, 4 18 150
Madrid, 9 320
Antwerp, 1 30
Shanghai, 5 168
Santos, 2 9 82

Potassium Cyanide—
N. Orleans, 1 t. 1 c. £104

Red Lead—
Boston, 10 cks.
Corral, 200 kgs.
Manaos, 40
Hsin Ho Wf., 1,220 pks.

Rubber—
Havre, 2 cs. 1 brl.

Salammoniac—
Rosario, 9 c. £20
Palermo, 5 10
Lisbon, 12 23
Adelaide, 3 6
Barcelona, 19 38
Genoa, 8 15
Marseilles, 10 19
Dedeagatch, 6 11
Patras, 4 8
Adelaide, 3 6

Salt—
Archangel, 500 t.
Bombay, 25 4 c.
Corral, 170 cs.
Durban, 100 50
Gibraltar, 200
Gothenburg, 100
Lagos, 66 5
Marseilles, 49 18
Monte Video, 50
Port Antonin, 250
Shanghai, 50
Sydney, 483
Talcahuano, 150
Trinidad, 23 8
Wellington, 50
Yokohama, 4 19

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Salt—
Abonnema, 60 t. 4 c.
Adelaide, 46
Antwerp, 310 600 cs.
Baltimore, 365
Bassam, 53 10
Boston, 400
Buenavent'a, 66 19
B. Ayres, 110 960
Calcutta, 4,459 250
Cape Coast, 11 3
Cape Lopez, 5 17
Delagoa Bay, 30
Desterro, 58 16
Dunedin, 191 6
E. London, 57 19
Falmouth, 100
Ghent, 722
Halifax, 250
Hamburg, 32 2
Lahou, 11 3
Montreal, 991 4
Newcastle, 600
New York, 100
Portland, 25
Porto Alegre, 50
Quebec, 96 19
Rosario, 100
St. Johns, 5
Sapeli, 12 5
Sekondi, 11 3
Sierra Leone, 50
Boma, 6
Cameroons, 25
Gd. Bassam, 10
Manaos, 101 4
Para, 228 12
Rosario, 16 1
Rotterdam, 100
St. Johns, 295
Shanghai, 100
Valparaiso, 221

Saltcake—
Talcahuano, 6 t. 13 c. £20
Lisbon, 40 140
Stockholm, 305 12 306

Saltpetre—
S. Leone, 1 kg. £1

Sheep Dip—
N. Orleans, 2 t. 18 c. £50
Natal, 1,300 dms. 22 cs. 343
B. Ayres, 49 t. 8 1,121
New York, 5 dms. 2
E. London, 2 t. 3 85
Algoa Bay, 23 8 423
P. Madryc, 1 7 67
Algoa Bay, 7 10 125
M. Video, 4 11 64

Soap—
Akassa, 30 bxs.
Assihi, 25 bdls. 500
Axim, 100
Bassam, 2 t. 75
Batanga, 300
Bombay, 4 cks. 1,447
1,316 cs.
Conakry, 200
Durban, 342 1,263
Fiume, 11 pks.
Gibraltar, 15 470
Grand Canary, 20
Grand Lahou, 300
Hamburg, 205
Lisbon, 89 36
Maeaos, 1,126 559
New York, 3 150
Punta Arenas, 10
Sapeli, 550
Sassandra, 65
Shanghai, 3,003 8,030
Smyrna, 162
Trinidad, 2
Winnebah, 95
Antofagasta, 200
Antwerp, 76
Accra, 4 150
Alexandria, 20
Bangkok, 246
Barbadoes, 405
Batavia, 30
Beira, 111
Burutu, 78
Cameroons, 50
Cape Town, 411 750
Christiania, 300 55
Colombo, 274
Constantinople, 14 134
Delagoa Bay, 23 1,037
H. Kong, 3,000
Kingston, 3,136
Kobe, 130
Las Palmas, 40 1,320
Longji, 75
Malta, 3
Manilla, 4 700
Para, 2,942 bdls.

Soap—
Pernambuco, 4 bxs.
P. Elizabeth, 482 cs.
Rangoon, 1,368
Singapore, 2 500
Tangiers, 100
Valparaiso, 121 300
Vera Cruz, 1
Bordeaux, 450
Calabar, 121
Calcutta, 19
Callao, 4
Coquimbo, 20
Demerara, 100
Dunedid, 10
E. London, 68 275
Fremantle, 350
Galatz, 73
Genoa, 6 pks.
Havre, 10
Hiogo, 702
Hsin Ho Wf., 33
Huelva, 60
Karachi, 1,130
Lagos, 95
Lucca, 250
Madras, 188 26
Mossel Bay, 32
Opobo, 4
Palermo, 10 cks.
Penang, 1,002
Rotterdam, 1,050
St. Jon 's, 303
St. Thomas, 18
Sandy Point, 20
Sekondi, 130
Sourabava, 185
Stockholm, 300
Taltal, 50
Teneriffe, 112
Varna, 26
Victoria, 5

Soap Extract—
Cape Town, 5 skl-cs.
Auckland, 40
P. Chalmers, 5 cs.
P. Elizabeth, 20
Sydney, 170

Soap Powder—
Havre, 100 bxs.
Rotterdam, 50 cks.

Soda—
Kingston, 3 cs.

Soda Ash—
Calcutta, 65 cks. 520 kgs.
5,025 bgs.
Copenhagen, 200
Halifax, 216
Hobart, 32
H. Kong, 84
Delagoa Bay, 50
Rotterdam, 676
Sydney, 190
Adelaide, 10
Batavia, 30
Christiania, 100
Fremantle, 68 700
Genoa, 420
Hamburg, 19
Havre, 20
Kobe, 500
Lisbon, 18 100
Lyttelton, 60
Malaga, 36
Mexico, 200
Montreal, 1,101
P. Alegre, 161
P. Cabello, 25
St. John's, 100
Salaverry, 20
Samarang, 450
Seville, 20
Shanghai, 346
Sourabaya, 165
Aarhus, 200
Boston, 40
B. Ayres, 301
Constantinople, 200
Leghorn, 200
Palermo, 200
Rotterdam, 224 brls.
Talcahuano, 50
Tampico, 8
Tientsin, 1,008
Valparaiso, 132
Victoria, 80

Soda Crystals—
B. Ayres, 500 dms.
Calcutta, 64 kgs.
Durban, 60
New York, 194 cks.
Singapore, 4
Valparaiso, 480 550
Talcahuano, 100
Montreal, 30 50

Soda Crystals—
Cape Town, 49 kgs.
Pernambuco, 180

Sodium Acetate—
Lisbon, 4 cks.

Sodium Bicarbonate—
Alexandria, 150 brls. 25 kgs.
Adelaide, 6 cks. 54
45 bgs.
Bilbao, 50
C. Town, 10 25
Durban, 30
E. London, 33
Montreal, 85 20
Piræus, 20
Rouen, 13
Seville, 22 215
Singapore, 14
Smyrna, 130
Rangoon, 65
Benkoelen, 12
Teneriffe, 10
Bourgas, 129
B. Ayres, 20
Calcutta, 300
Catania, 8 20 191
Chittagong, 30
Corunna, 20 brls.
Galatz, 110 dms.
H. Kong, 126 kgs.
Karachi, 200 280
Kobe, 500
La Libertad, 100
Lyttelton, 260
Madras, 20 100
Malaga, 40 90
Melbourne, 250 dms.
257 kgs.
P. Elizabeth, 1 tnk.
Sydney, 20 cks. 74
Valencia, 4 129
Valparaiso, 50
Vigo, 40
Asuncion, 10
Halifax, 15
Malta, 10
Mossel Bay, 15
Nassau, 1 cs.
Rettimo, 20
Santiago, 20
Talcahuano, 50
Varna, 131 dms.

Sodium Chlorate—
Melbourne, 1 t. £39

Sodium Cyanide—
Mazatlan, 4 t. £395

Sodium Hydrosulphite—
St. Johns, N'fld., 4 t. £29

Sodium Phosphate—
Huelva, 4 c. £4

Sodium Silicate—
Bombay, 8 cks.
Brisbane, 2 dms.
B. Ayres, 95 brls.
Chalkis, 7
Genoa, 174
Konigsberg, 10
Lisbon, 407
Melbourne, 51
Salonica, 53
Santander, 40
Valparaiso, 30
Vera Cruz, 50
Adelaide, 4 5 cs.
Corunna, 20 brls.
Fremantle, 25
Galatz, 100 bxs.
M. Video, 250
U.S.A., 175
Valencia, 41
Kobe, 20
Leghorn, 36
Lyttelton, 32
Montreal, 50
New York, 5
Sydney, 64

Sodium Sulphide—
Petersburg, 20 t. 3 c. €140
Valparaiso, 9 14 167

Starch—
Conakry, 10 cs.
Copenhagen, 3 cks.
Calcutta, 4
Maranham, 38 bgs.

Sulphur—
Lagos, 1 kg. £1
E. London, 4 t. 9 c. 50
Geffe, 25 113
Stockholm, 50 225
Boston, 125 516
C. Town, 5 12 63
Valparaiso, 2 19 23

Superphosphates—
Lisbon, 1,286 t. £3,467
Valencia, 118 10 c. 410
Seville, 172 10 432
Las Palmas, 26 15 74
Teneriffe, 29 8 81
Malaga, 150 407
Alicante, 98 13 247
Demerara, 58 16 176
Oporto, 98 264
Valencia, 99 3 295

Tallow—
Alexandria, 50 trcs.
Antwerp, 289 cks.
Fiume, 62 brls.
Rotterdam, 164
Assini, 2
Bombay, 3
Calcutta, 10

Tartaric Acid—
Rio Gallegos, 1 kg. £6

Turpentine—
Boston, 30 dms.
Hsin Ho Wharf, 60 pks.

Venetian Red—
Bilbao, 20 cks.

White Lead—
Piræus, 1 t.
Boston, 50 crts.
Durban, 5 kgs.
E. London, 6

Zinc Muriate—
H. Kong, 2 t. 14 c. £35

MANCHESTER.

Period ending August 28.

Ammonium Muriate—
Antwerp, 2 cks.
Germany, 7

Ammonium Sulphate—
Leghorn, 206 bgs.

Antimony Salt—
Hamburg, 3 cks.

Bones—
Rouen, 261 bgs.

Caustic Potash—
Alexandria, 40 dms.

Caustic Soda—
Tunis, 3 brls. 3 dms.

Chemicals (*otherwise undescribed*)
Treport, 58 t.

Coal Products—
Aniline Colour
Antwerp, 3 kgs.
Ghent, 1 brl.
S.Petersburg, 15 cks.
Aniline Oil
Philadelphia, 30 dms.
Carbolic acid
Rouen, 30 btls.
Oil
Sydney, 2 brls.
Tar
P'delphia, 48 cks. 22 dms.

Colours—
Wellington, 12 kgs.

Copperas—
Alexandria, 68 brls.
Germany, 10 cks.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 4 cks.

Dyestuffs—
Logwood Extract
Reval, 10 cks.
Austria, 17 kgs.

Gelatine—
Montreal, 15 cs.

Glue—
Rouen, 100 bgs.

Gypsum—
Montreal, 2 t.

Lead Acetate—
Beyrout, 4 cks.

Linseed Oil—
Beyrout, 8 brls.
Jaffa, 6
Larnaca, 2
Mersyne, 2
Tripoli, 9

Mineral White—
Rouen, 42 cks.
Ghent, 10

Potassium Bichromate—
Antwerp, 2 cks.

Potassium Chlorate—
Tunis, 1 brl.

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Rubber—
Hamburg, 2 cs.
Salammoniac—
Bushire, 2 brls.
Salt—
Wellington, 35 bxs.
Charlottetown, 12,870
Saltcake—
Gothenburg, 46 t. 6 c.
Sheep Dip—
Sydney, 10 dms.
Soap—
Alexandria, 7 cs.
Beyrout, 11
Soda Crystals—
Jaffa, 10 brls.
Sodium Bicarbonate—
Jaffa, 2 cks.
Sodium Bichromate—
Rouen, 3 cks.
Tunis, 25 kgs.
Sodium Prussiate—
Antwerp, 35 cks.
Sulphur—
Halmstad, 1,500 bgs.
Zinc Oxide—
Tripoli, 33 kgs.1 brl.

HULL.

Week ending August 24

Ammonium Sulphate—
Hamburg, 500 bgs.
Marseilles, 100
Rotterdam, 501
Rouen, 76
Antimony (Crude)—
New York, 250 cks.
Barium Carbonate—
Marseilles, 200 bgs.
Rouen, 17 t. 80
Barytes—
Stettin, 2 t. 10 c.
Chemicals (*otherwise undescribed*)
Antwerp, 7 cks.
Amsterdam, 45
Copenhagen, 1 cs.
Christiania, 1 277 slbs.
200 bgs.
Constanti'ple, 53
Genoa, 50 3
1,380
Gothenburg, 72 cs.
Hamburg, 35 2 3 dms.
1 70 pks.
Libau, 60
New York, 40 343 bgs.
Odessa, 47
Riga, 4 cs.
St. Petersb'g, 60
Stettin, 3
Rouen, 3 10 dms.
Coal Products—
Creosote
Wyburg, 20 brls.
Pitch
Antwerp, 2 cks.
138 t.
Tar
Drontheim, 10 cks.
Gothenburg, 8
Ghent, 2
Konigsberg, 5
Cottonseed Oil—
Copenhagen, 17 c.
Gothenburg, 1 t. 14
Amsterdam, 5 21
Glue Stock—
St. Petersburg, 21 bgs.
Glycerine—
New York, 40 dms.
Linseed Oil—
Antwerp, 2 t. 12 c.
Christiansand, 1 15
Copenhagen, 3
Christiansund, 1 18
Dunkirk, 6 14
Stavanger, 14
Hamburg, 8
Manganese Ferro—
Dunkirk, 2 t.
Manure—
Bremen, 204 bgs.
Hamburg, 900
Rotterdam, 40
Mineral White—
Amsterdam, 100 bgs.
Phosphate—
Christiania, 400 t. 1 c.
Copenhagen, 109 2
Falkenburg, 424 18
Halmstad, 425
Tallow—
Amsterdam, 12 cks.
Leghorn, 22
Rotterdam, 6 50 trcs.
Riga, 16
Turpentine—
Antwerp, 3 cks.
Amsterdam, 1
Christiania, 1
Copenhagen, 2
Constanti'ple, 18
Drontheim, 3
Gothenburg, 10

GLASGOW.

Week ending August 29

Aluminium (Chrome)—
Madras, 2 t. 5 c.
Ammonium Carbonate—
Christiania, 11 c. 1 q.
Sweden, 16 3
Ammonium Sulphate—
Baltimore, 75 t. 4 c.
Yokohama, 207 1 2 q.
Nantes, 50 6 2
Santander, 10 3 2
Amsterdam, 143 7
Carbon Sulphide—
Brisbane, 2 t. 1 q.
Castor Oil—
Madras, 1,519 gals.
Caustic Potash—
Brisbane, 2 t. 5 c. 2 q.
Chemicals (*otherwise undescribed*)
Canada, £48
Kobe, 93
Yokohama, 63
Gijon, 5 t.17 c. 3 q.
Coal Products—
Carbolic Acid
Rotterdam, 17 t. 5 c.
Creosote
Bordeaux, 108 t.10 c.
Creosote Oil
Bayonne, £891
Helsingfors, 345 t. 1 c.
Creosote Salts
Bayonne, £55
Pitch
Constantinople, £34
Canada, a qty.
Quebec, ,,
Bombay, ,,
Tar
Stockholm, 1 t. 1 c. 20 lb.
Canada, 59 13
Quebec, a qty.
Bombay, ,,
Calcutta, 250 t.19 c. 3 q.
Colours—
Canada, 6 c.
Dyestuffs (*otherwise undescribed*)—
Sweden, 12 t.10 c. 3 q.
Farina—
Rio de Jan., 5 t.15 c.
Fish Oil—
Nantes, 6 t.14 c. 1 q.
Spain, 10 13 3
Hamburg, 39 16 3
Gelatine—
U.S.A., 1 t.14 c. £274
Glue—
Christiania, 5 c. 3 q.
Lead Nitrate—
U.S.A., 5 t. 5 c.
Linseed Oil—
Piræus, 2 t.
Rio de Jan., 3 12 c. 1 q.
Alexandria, 7 2
Bombay, 2
Rockhampton, 19 1
Santiago de C. 2
Brisbane, 520 gals.
Havana, 1 14
Litharge—
Philadelphia, 1 t.10 c.
Paraffin (Solid)—
Amsterdam, 13 t.15 c.
Rotterdam, 1
Paraffin Wax—
Bordeaux, 1 t.19 c. 3 q.
Nantes, 1
Spain, 16 1
Talcahuano, 2 3
Stockholm, 5 17 1
Santos, 13 5 0
Turkey, 2 5
Christiania, 4 4 3
Bombay, 1 3
C. Town, 12 9
Helsingfors, 6 1
Phosphoric Acid—
E. London, 1 t. 1 c. 1 q.
Potassium Bichromate—
Christiania, 7 c. 3 q.
Canada, 1 t.14
Sweden, 2 18 3
Rotterdam, 5 5
Potassium Cyanide—
Canada, £65
Kobe, 808
Red Lead—
Constanti'ple, 1 t. 2 c. 1 q.
Calcutta, 2 1
Colombo, 1 7 2
Stockholm, 5 9
Rosin Oil—
Calcutta, £40
Stockholm, 19 t.10 c. 2 q.
Soap—
Constanti'ple, 3 t. 9 c. 2 q.
Algoa Bay, 2 2 1
Colombo, 2 2 1
E. London, 2
Sodium Bichromate—
Canada, 5 t. 5 c.
Sodium Cyanide—
Marfil, 27 t.
Sodium Nitrate—
Huelva, 101 t. 5 c. 1 q.
Starch—
Rio de Jan., £376
Tallow—
Alexandria, 1 t.14 c.
Bombay, 14 18
Colombo, 4 9
Tartaric Acid—
C. Town, 4 c. 2 q.
Turpentine—
Constantinople, £44
Trebizonde, 22
White Lead—
Calcutta, 3 t. 5 c.
Cienfuegos, 2 9 3 q.
Madras, 1
Rockhampton, 2 2 3
Brisbane, 9 16 2
Zinc White—
Galata, 16 c. 1 q.

TYNE.

Week ending August 24.

Ammonium Carbonate—
Aarhus, 11 c.
Ammonium Sulphate—
Genoa, 25 t. 5 c. 1 q. 21 lb.
Antimony Carbonate—
Hamburg, 7 t. 6 c. 3 q. 14 lb.
Antimony (Regulus)—
Rotterdam, 8 t.11 c.
St. Petersburg, 5 8 1 q. 23 lb.
Asbestos—
Antwerp, 1 q. 12 lb.
Barium Binoxide—
Antwerp, 2 t. 5 c. 3 q.
Genoa, 13 2 2 lb.
Hamburg, 11 14 2
Barium Carbonate—
Hamburg, 197 t.17 c.
Bleaching Powder—
Christiania, 3 t. 9 c. 2 q. 26 lb.
Aalborg, 2 11 1 4
Odense, 10 1 22
Rotterdam, 5 3 3
Copenhagen, 30 6 3 6
Amsterdam, 20 19 1 11
Bone Meal—
Hamburg, 49 t.17 c. 2 q. 6 lb.
Caustic Soda—
Antwerp, 4 t. 7 c. 6 lb.
Christiania, 2 9 2 q. 16
Genoa, 58 2 3 7
Stavanger, 1 9 2
Rotterdam, 7 3 12
Copenhagen, 15 19 22
Amsterdam, 5 1 1
Chemicals (*otherwise undescribed*)
Christiania, 10 t. 14 lb.
Infusorial Earth—
Hamburg, 10 t.
Litharge—
Copenhagen, 9 c. 3 q.
Amsterdam, 6 10 lb.
Magnesia (Calcined)—
Genoa, 1 t. 3 c. 2 q. 26 lb.
Manure—
Genoa, 2 t.18 c. 1 q. 10 lb.
Oporto, 360 1 3 14
Candia, 228
Valencia, 86 7
Lisbon, 1,529 13 1 16
Red Lead—
Christiania, 3 t.10 c. 2 q. 11 lb.
Genoa, 9 3 2 16
Copenhagen, 3 6 2 10
Hamburg, 10 5 2 14
Soap—
Stavanger, a qty.
Bergen, ,,
Soap Lyes—
Amsterdam, 12 t.
Sodium Silicate—
Riga, 1 t.15 c. 1 q. 18 lb.
Sodium Sulphide—
St. Petersb'g, 19 t.19 c.
Genoa, 2 14 3 q. 27 lb.
Superphosphate—
Genoa, 11 t.13 c. 1 q. 12 lb.
Tallow—
Riga, 5 t.12 c. 3 q. 26 lb.
Turpentine—
Antwerp, 1 q. 6 lb.
White Lead—
Hamburg, 5 t.10 c. 1 q. 5 lb.
Witherite—
Riga, 10 t. 2 c. 2 q.

GOOLE.

Week ending August 24.

Ammonium Sulphate—
Hamburg, 10 t.
Chemicals (*otherwise undescribed*)
Antwerp, 36 cks.
Bruges, 56 bgs.
Boulogne, 31 cs.
Copenhagen, 10
Dunkirk, 25 42
Hamburg, 175 140
Rotterdam, 9 50
Coal Products (*otherwise undes.*)—
Amsterdam, 114 cks.
Antwerp, 39
Boulogne, 133
Delfzyl, 194
Hamburg, 80 14 dms.
Rotterdam, 199
Colours—
Amsterdam, 6 cks.
Boulogne, 49 15 dms.
Ghent, 22
Rotterdam, 29 2
Dyestuffs (*otherwise undescribed*)—
Rotterdam, 7 cks.2 cs.
Manure—
Hamburg, 500 bgs.

GRIMSBY.

Week ending August 21.

Basic Slag—
Esbjerg, 100 bgs.
Chemicals (*otherwise undescribed*)
Dieppe, 6 cks.
Hamburg, 36
St. Thomas, 10 kgs. 2 cs. 52 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 3 cks.
Malmo, 5 brls.
Colours—
Hamburg, 9 cks.
St. Thomas, 3 brls.
Manure—
Hamburg, 134 bgs.
Soap—
Hamburg, 50 cs.
St. Thomas, 46
Starch—
Helsingborg, 11 cs.

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PRICES CURRENT.

FRIDAY, September 6, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10½
Acetone	per ton	82	10	0
Arsenic, white powdered nett	,,	31	10	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	38	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35% nett	,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¾
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5¾
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¼
,, (filtered for Lucigen light)	,,	0	0	2¾
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	6
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	73	2	6
,, Sulphate	,,	26	5	0
,, Oxide (copper scales)	,,	62	10	0
Glycerine (crude), 80%	,,	31	0	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine nett	per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	21	15	0
,, Litharge Flake (ex ship)	,,	22	10	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	28	10	0
Linseed	,,	23	10	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate nett	,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	18	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash) 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5½
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7½
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48% nett	per ton f.o.r. w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,, ,,	16	15	0
,, Arseniate, 45%	,, ,,	24	0	0
,, Borate (Borax), Crystals	,, ,,	16	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3⅝
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	35	0	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	170	0	0
Zinc (Spelter)	,,	22	2	6
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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LATE ADVERTISEMENTS.

EXPERIENCED Tar Distiller and Sulphate of Ammonia maker requires Situation; charge of small works preferred; best of references given.—"1,483," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

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BASIC SLAG.—Wanted, Agency for Ireland for Sale of above.—Address, "Slag," Messrs. Deacon's, Leadenhall Street, London

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Trade Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff Rates, which will be forwarded on application.

CURRENT TOPICS.

THE AUGUST TRADE RETURNS.

THE Trade and Navigation Returns for August show continued increases in both imports and exports.

The figures for the month are :—Total imports (value c.i.f.) £49,296,585., against £48,889,137., an increase of £407,448. Total exports of British and Irish produce (value f.o.b.), £37,355,044., against £33,492,614., an increase of £3,862,430. The comparison with 1905 shows an increase of £2,439,856. in imports, and an increase of £7,837,208. in exports.

The imports of chemicals, drugs, dyes, and colours in August amounted to £951,363., against £856,982. in 1906, an increase of £94,381. The imports of bleaching materials were valued at £3,581., against £6,227., and of soda compounds £9,932., against £8,149. in 1906.

The exports of chemicals, drugs, dyes, and colours in August amounted to £1,319,825., against £1,147,120. in 1906, an increase of £172,705. During the month the principal items were :—Bleaching materials, 69,497 cwts., valued at £14,996., against 73,686 cwts. and £15,932. in 1906. Coal products (not dyes), value £66,860., against £75,606. in 1906. Copper sulphate, 717 tons, valued at £21,577., against 617 tons and £14,747. in 1906. Dyestuffs, £31,282., against £24,810. in 1906. Glycerine, £34,939., against £18,814. in 1906. Chemical manure, 76,445 tons, valued at £388,064., against 78,359 tons and £328,922. Muriate of ammonia, 11,227 cwts., valued at £14,242., against 12,588 cwts. and £16,766. in 1906. Painters' colours and materials, 168,892 cwts., valued at £211,938., against 152,699 cwts. and £184,730. in 1906. Soda compounds, 462,913 cwts., valued at £157,433., against 420,017 cwts. and £125,147. in 1906. The exports of salt in August amounted to 55,107 tons, valued at £44,252., against 61,673 tons and £43,472. in 1906. Exports of "unenumerated chemicals" were valued at £224,172., compared with £217,907. in 1906.

The imports of oil seeds, nuts, oils, fats, and gums in August amounted in value to £2,952,022., against £2,243,061. in 1906, an increase of £708,961. The figures for petroleum were 22,720,548 gallons, valued at £461,293., against 29,382,876 gallons and £564,345. in 1906. The value of exports of oil seeds, nuts, oils, fats, and gums was £283,649., against £230,097., an increase of £53,552.

The imports of metals and minerals during August were :—Copper ore, 8,803 tons, valued at £110,854., against 9,039 tons and £113,485. in 1906. Copper (regulus and precipitate) 6,965 tons, valued at £289,245., against 7,476 tons and £336,344. in 1906. Lead (pig and sheet), 17,866 tons, valued at £352,212., against 16,789 tons and £275,000. in 1906. Pyrites of iron and copper, 61,930 tons, valued at £94,207., against 54,572 tons and £95,270. in 1906. Quick-

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silver, 56,250 lbs., valued at £4,925., against 37,500 lbs., valued at £3,500. in 1906. Silver ore, value £225,253., against £175,588. in 1906. Tin, 4,345 tons, valued at £753,283., against 3,529 tons and £630,196. Zinc (crude), 6,490 tons, valued at £146,731, against 7,523 tons and £189,175.

THE INDUSTRIAL DEVELOPMENT OF JAPAN.

The last report of the British Consul-General in Japan contains some interesting notes on the industrial development of the country. The capitalised wealth of Japan is approximately £2,311,000,000., excluding Formosa. It is evident that there is room for a large expansion of Japan's aggregate wealth, even if she never approaches the considerable per capita wealth of other countries; when her natural resources are taken into consideration, it is probable that this development and appreciation of values will take place. Between 1895 and 1904 the production of gold had increased over 200%, copper nearly 50%, iron nearly 50%, iron pyrites 300%, coal nearly 125%, sulphur over 50%, and petroleum over 600%.

Japan has large forest areas which are a source of potential wealth, while her progress in cotton spinning, sugar refining, match manufacture, etc., shows considerable possibilities in the way of industrial expansion. The difficulties of over-rapid development, the growth of luxuries, and the increased cost of living will, with other obstacles, have to be met; but the net result will be a steady expansion all round. Japan's chief aim is the development of her resources and trade, and it is for this reason that the introduction of foreign capital in the shape of loans or investments is desired by her. Development cannot come without capital, and Japan seeks to develop in every direction.

Railways, harbours and industries at home, railways and mines in Corea and Manchuria, shipping, and trade are all receiving attention and demand money, making the question of capital one of vital importance for the country. The matter is one of interest to British trade, because the main avenue of commercial expansion for Japan is in the direction of China and Corea. Her high tariff will, whenever necessary, secure to Japan much of the control of her own markets, and will place her in a favourable position to secure the major share of increased trade in those countries. Her geographical proximity, natural concentration of attention on Far Eastern trade, numerous subjects resident in Far Eastern ports, Government encouragement, and, perhaps, in time, control of capital, will all contribute to give her traders very considerable advantages, and render specially necessary the conservation of such advantages of position, knowledge and reputation as British traders already possess. It is this probable future expansion of Japan in Far Eastern markets which renders such matters as trade-marks of prime importance. Even in the case of merchants interested only in China and Corea, registration of trade-marks in Japan may often serve a useful purpose. Priority of registration may, in any case, prove advantageous; while, whatever the solution of the trade-mark question in China may be, Japanese offenders will, in many instances, be more easily pursued in their own country. The difficulties arising from a Japanese having legally registered in Japan a trade-mark registered by a British merchant in the United Kingdom, and using the trade-mark simultaneously with his British competitor in China, would then be avoided.

Virginia-Carolina Chemical Co.—Messrs. Hales and Sons notify that a quarterly dividend of $2. per share (at the rate of 8% per annum) has been declared upon the preference stock.

IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during August, 1907, as compared with August, 1906:—

ARTICLES.	QUANTITIES. Month of August.		VALUE. Month of August.	
	1907.	1906.	1907.	1906.
CHEMICALS:			£	£
Bleaching Materials Cwts.	14,214	23,297	3,581	6,227
Boracite, Borate of Lime, Borate of Magnesium, and Borax ... ,,	64,486	38,258	29,764	15,576
Brimstone ... ,,	30,589	100,152	7,292	21,023
Coal Products, not Dyes ... ,,	2,741	14,977	6,134	9,550
Cream of Tartar ,,	5,349	5,470	20,666	20,005
Glycerine ... ,,	7,089	4,662	14,512	6,360
Muriate of Ammonia ... ,,	229	1,329	313	1,844
Saltpetre (Nitrate of Potash) ... ,,	19,121	14,048	19,995	13,430
Soda Compounds ,,	23,350	19,729	9,932	8,149
Sulphuric Acid . ,,	8,500	12,000	625	600
Tartaric Acid .. ,,	2,336	2,748	11,441	13,118
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value £	—	—	236,785	167,947
DRUGS and MEDICINES:				
Bark, Peruvian ..Cwts.	2,093	1,852	5,041	4,128
Quinine and Quinine Salts .. ozs.	60,796	86,416	1,921	3,065
Unenumerated Value £	—	—	69,240	75,846
DYE STUFFS (other than DYE WOODS) and SUBSTANCES used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	36,199	23,550	14,788	8,634
Cutch ..... Tons	309	531	6,330	9,575
Dyes, Coal Tar:				
Alizarine and Alizarine Dyes Cwts.	5,525	4,873	22,326	23,039
Aniline ..... ,,	17,004	14,930	102,312	89,758
Synthetic Indigo ,,	3,580	3,280	13,623	11,864
Other Coal Tar ,,	44	35	178	147
Extracts .....Value £	—	—	78,764	57,070
Gambier .....Tons.	553	869	10,410	19,437
Indigo .....Cwts.	244	167	2,636	1,440
Myrabolans .... ,,	63,483	51,634	16,888	12,947
Valonia ..... Tons	1,749	1,964	18,482	20,866
PAINTERS' COLOURS AND PIGMENTS:				
White Lead ....Cwts	28,639	24,306	30,185	22,666
Nickel Oxide .... ,,	973	2,005	5,189	10,120
Zinc Oxide .... ,,	23,304	20,962	26,035	23,389
Other Sorts .... ,,	133,776	156,940	74,628	75,579
Total ..... ,,	186,692	204,213	136,037	131,754
MANURES:				
Bones, whether burnt or not ..... tons.	2,498	4,178	12,046	18,839
Guano ..... ,,	393	441	1,989	2,026
Nitrate of Soda (Cubic Nitre)... ,,	7,355	6,396	81,669	71,909
Phosphate of Lime, and Rock Phosphate ..... ,,	50,780	23,924	85,809	30,242

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes colours, etc., exported during August, 1907, as compared with August, 1906:—

ARTICLES.	QUANTITIES. Month of August. 1907.	QUANTITIES. Month of August. 1906.	VALUE. Month of August. 1907.	VALUE. Month of August. 1906.
BLEACHING MATERIALS:			£	£
To U.S.A. .....Cwts.	47,936	35,482	9,842	7,257
„ Other Countries „	21,561	38,204	5,154	8,675
Total — — „	69,497	73,686	14,996	15,932
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	76,745	151,091	17,974	30,197
Carbolic Acid ... „	8,564	9,657	11,877	12,163
Naphthalene and Anthracene ... „	9,886	3,992	2,864	1,481
Other Sorts — — „	160,994	171,223	34,145	31,765
Total .... „	256,189	335,963	66,860	75,606
COPPER, Sulphate of. Tons	717	617	21,577	14,747
CREAM OF TARTAR Cwts.	69	99	247	381
DYE STUFFS:				
Products of Coal Tar ..... „	5,694	2,874	17,413	10,504
Other Sorts — — „	15,899	14,735	13,869	14,306
Total — — „	21,593	17,609	31,282	24,810
GLYCERINE .....Cwts.	19,415	9,789	34,939	18,814
MANURE (Chemical):				
To Germany ... Tons	3,108	3,124	28,544	31,979
„ Belgium — — „	192	88	1,582	234
„ France .... „	3,321	1,966	22,190	11,376
„ Spain & Canaries „	10,672	10,607	49,229	64,931
„ British West India Islands (including Bahamas) & British Guiana .. „	365	140	2,680	1,324
„ Other Countries „	58,787	62,434	283,839	219,078
Total ..... „	76,445	78,359	388,064	328,922
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	104,724	72,518	4,989	3,268
Unenumerated Value £	—	—	143,209	117,078
Total	—	—	148,198	120,346
MURIATE OF AMMONIA .....Cwts.	11,227	12,588	14,242	16,766
PAINTERS' COLOURS AND MATERIALS:				
White Lead ...Cwts.	38,344	29,943	46,971	31,200
Nickel Oxide .... „	10	6	80	50
Zinc Oxide ..... „	6,235	5,942	7,863	6,897
Other Sorts — — „	124,303	116,808	157,024	146,583
Total — — „	168,892	152,699	211,938	184,730
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	153,339	132,652	35,632	30,741
„ Bicarbonate „	48,336	42,704	14,788	13,044
„ Caustic .... „	131,112	119,444	64,915	60,129
„ Crystals — „	19,022	15,270	3,053	2,582
„ Sulphate (Saltcake) „	73,957	77,326	6,321	6,080
„ Other Sorts „	37,147	32,621	32,724	12,568
Total — „	462,913	420,017	157,433	125,147

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of August. 1907.	QUANTITIES. Month of August. 1906.	VALUE. Month of August. 1907.	VALUE. Month of August. 1906.
			£	£
SULPHURIC ACID ..Cwts.	10,760	4,938	5,155	2,170
TARTARIC ACID .. „	127	169	722	842
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) —..Value £	—	—	224,172	217,907
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	128	630	203	517
„ Belgium ..... „	2,084	2,478	1,503	1,339
„ U.S.A. ..... „	3,969	5,212	5,140	5,339
„ British E. Indies „	13,294	23,084	8,007	12,072
„ Australia .... „	7,332	1,084	5,616	807
„ New Zealand . „	1,136	798	1,636	1,472
„ Canada ..... „	7,398	8,708	6,491	7,076
„ Other Countries „	19,166	19,679	15,656	14,850
Total ..... „	55,107	61,673	44,252	43,472

CITRIC ACID PRODUCTION.

IN a letter to Sir Daniel Morris, the Imperial Commissioner of Agriculture for the West Indies, Mr. Jones, the Curator of the Botanical Station at Dominica, raises the interesting question whether the world's supply of citric acid is all produced within areas dominated by active volcanoes, as Sicily, parts of Italy, Montserrat, and Dominica. "Is this," he asks, "merely a coincidence, or is it the result of long experience proving that such localities are best suited for the growth of lime and lemon trees?" The British Consul-General in Italy, in his annual report just issued, observes that with respect to his Consular district, or at all events to such parts of it as grow oranges and lemons, citrons, and bergamotte, in profusion, it must be said that they are all dominated by active volcanoes, Vesuvius and its region, Etna, Stromboli and Vulcano, commanding as it were the entire citric zone. "It is, of course, obvious that the volcano must be situated in a latitude in which these delicate plants can thrive. We cannot expect lemons to grow on Hecla merely because it is a volcano, although no doubt the soil contains the elements of potash and phosphoric anhydride which form the soil best adapted to any fruit tree, and therefore to any sort of lemon tree. It is a fact that the groves of Sorrento, Nocera, and Mandanice prosper the better in the proportion that they find land richer in lapilli, which, as is known, are formed of hardened fragments of volcanic pumice stone. These facts are not sufficient to prove the case altogether, for many lemon groves near Messina and in Calabria, though dominated by Etna, Stromboli and Vulcano, are found on lands of granitic formation; and others in the same region and other regions of Sicily are in alluvial deposits with chalk or clay chalk of tertiary formation."

NITRATE STATISTICS.—The Permanent Nitrate Committee, in their Public Statistical Circular for September, state the shipments of nitrate of soda as follows:—(1) Total exports to Europe, August, 1,874,400 quintals. (2) Imports, Europe, August, 62,230 tons. (3) Deliveries, Europe, August, 43,000 tons. (4) Visible supply, Europe, 1st September:—Stocks and afloat, 385,390 tons.

WAGES IN WIDNES.—The *Liverpool Daily Post* says:—"The members of the engineering societies in Widnes have recently asked for an advance of 2s., and this has been granted by the Widnes Alkali Company, the Castner-Kellner Co., the Manchester Ship Canal Company, and several other firms. Still there are two big local firms who have not acceded to the men's request, and if the employers do not grant the demands the men will go out on strike. Influence is being brought to bear upon the employers, and it is likely that the advance will be made."

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THE ITALIAN OLIVE OIL INDUSTRY.

THE British Consul-General at Naples in reporting on the olive crop in South Italy in 1906 states that the export during the past year, compared with preceding years, has been short. The supply has almost exclusively been absorbed by the United Kingdom and home consumption; an insignificant quantity has been forwarded to Russia, where our oils compete with those of the Ionian Islands. Demand from North Italy has been very active, owing to the excellent quality of the 1905-06 crop, which, on account of its very low acidity and almost absolute lack of smell, was accepted as edible oil and used, especially by the rural population.

During recent years positive progress has taken place in gathering and grinding the olives, and also in the system of preserving freshly-ground oil. As a consequence of these improvements the disposable stocks of common oils are yearly diminishing, whilst, on the other hand, the quantities of edible, half fine and fine oils are increasing. This ensures a very satisfactory continuity between the grower and the consumer, especially in places where only fine oils command a market.

The stock on hand in Gallipoli on December 31, 1906, consisted of excellent oils remaining from 1905, but there are also burning oils for Russian use and some lots of inferior qualities of strong acidity. As preceding reports warned importers, the result of the crop of 1906 was very poor.

The year 1906, which recorded a sensible rise in the prices of all articles of world trade, brought an advance in price for oils. This rise was occasioned neither by speculation nor by increased consumption, but was to be attributed to the general deficiency of production. Spain, which in some favourable years has such an enormous production as would by itself be sufficient to supply a great part of the world, had hardly sufficient to satisfy the wants of home consumption; its prices were always sustained and still are about £10. per tun higher than the Italian, and export to foreign places is therefore paralysed. Neither the Levant, Tunis nor Morocco with their moderate crops were able to make good this scarcity. The Ionian Islands competed with success on the foreign markets, where they sold their produce at remunerative prices, but now their stocks must be much reduced, if not quite exhausted.

Prices on January 1, 1906, for prompt Gallipoli stood at £34. per tun, f.o.b.; they reached during the first six months £38., and declined at the beginning of July to £35., but afterwards they advanced again up to £41. A slight reaction is shown by present quotations, owing to the position of the exchange, whilst high premiums are paid for special qualities. In conclusion, till December there is no way for consumers but to apply for the small stock still on hand in some parts of South Italy. The choice qualities of these oils will very soon be exhausted, so that purchasers should cover their wants at once, or they will incur risk of disappointment.

The following table shows the export of olive oil (in Imperial tuns) from Gallipoli during the year 1906, as compared with preceding years:—

To—	1902.	1903.	1904.	1905.	1906.
	Tuns.	Tuns.	Tuns.	Tuns.	Tuns.
United Kingdom	521	516	560	414	513
Russia	119	97	298	96	36
France	14	11	10	5	..
Shanghai	..	..	77	82	..
Italian Ports	456	960	1,633	980	814
Total	1,110	1,584	2,578	1,577	1,363
Stock at Gallipoli on 31st December ...	2,681	2,151	2,178	540	1,216
	£. s.	£. s.	£. s.	£. s.	£. s.
Price of first Gallipoli on 31st December, per tun	35 5	30 10	37 0	32 15	40 15

Mr. Vice-Consul Berner (Bari) reports that the yield of olive oil in his district was a poor one, respecting both quantity and quality, the keiroun (oil-worm) having caused great havoc, especially in the plains along the coast. Fortunately large stocks of well-preserved old oil, of superior quality, were existing to meet exacting demands. These stocks, however, being now greatly reduced, it is feared that they will hardly suffice to fulfil requirements until next autumn. Owing to the chilly weather in the first quarter of the year, trees are very much behind in their development, and no forecast can be made as yet in regard to the prospects of the next crop. Under the patronage, and with the subvention of, the Government, studies are being carried on to find means to prevent the spreading of the oil-fly, which, ever since the Roman era, has appeared almost every year, injuring the olives more or less, and often completely destroying them. Some appreciable results have been obtained with the dachicida (larva-killer) invented by Mr. De Cillis, a mixture of 65% molasses, 31% honey, 2% glycerine, and 2% arseniate of soda, of which composition a solution of one part with nine parts of water is used for syringing trees with common hand-pumps (in the same way as vines are treated with sulphate of copper against cryptogamic diseases) periodically—say, from four to six times—the first syringing to take place as soon as the young fruit comes out. In groves where such experiments have been made, only from 10 to 20% of the olives were attacked by the insect; whilst up to 80% were damaged in others adjoining them, where such treatment had not been adopted. As a matter of fact, however, the system proposed does not solve the question, but is a palliative only; for, apart from the cost of the stuff, and heavy expenses for wages, there remains the difficulty of inducing all the farmers, without exception, to follow suit, and the impossibility of applying it to districts where trees, as in Calabria and Basilicata, attain an enormous height (up to 60 feet), which cannot be reached by hand-pumps. It is obvious that, if even a few centres of infection only remain, the oil-worm, when in the stage of fly, will easily spread thence to other quarters. To radically extirpate it, according to the advice of competent persons, the simplest way would be to bring it to starvation by gathering all the fruit by the end of March (a Bill in Parliament would have to pass for that purpose), for it is an acknowledged fact that the invasion of the keiroun only takes alarming proportions in years following a plentiful crop. Then, on account of the abundance, harvesting is belated in many districts, the olives remaining on the trees up to May, and even June, when in other districts the new fruit is already coming out. The oil-fly (mild weather at that period of the year favouring its multiplication), from the old fruit gets on to the new for subsistence, but would certainly perish for want of food if the olives were gathered before April, when trees only begin to blossom.

Cottonseed Oil in Austria-Hungary.—The Acting British Consul at Trieste reports that, according to a recent official publication, the price of cottonseed oil at Trieste has increased by 40%. The new Customs Tariff of 1906, which brought the duty on cotton oil from 8 kronen (6s. 8d.) to 40 kronen (£1. 13s. 4d.), has greatly curtailed the importation of this article. During the first six months of 1906, 72,056 barrels, with 12,970 tons, were imported into Trieste. Of this quantity, 63,296 barrels came from America. During the same period of 1907 only 3,909 barrels with 704 tons were imported into Trieste (2,262 barrels from America, 876 barrels from England, and 771 barrels from other places). On 30th June, 1907, there was a stock of only 426 tons in that port.

The Sir John Cass Technical Institute.—The new session of the Sir John Cass Technical Institute will open on Monday, September 23rd. The work of the several departments has been considerably reorganised since last year. Apart from systematic courses in physics, mathematics, and chemistry, in which provision is made for students preparing for degrees of London University in Experimental Science, special courses of instruction will be given in physical chemistry, brewing and malting, and in several branches of advanced physics, including radio-activity. The courses in physical chemistry will include general physical chemistry, electro-chemistry, and a laboratory course of practical work. The instruction in brewing and malting will also include laboratory work of a technical character, in addition to a course of lectures designed for those engaged in the brewing and malting industries, in which full attention will be given to modern methods of work. The teaching in metallurgy, which for the past four years has formed a distinctive part of the work of the Institute, has now been established as a separate department, and a full graded curriculum, extending over three years, is provided, which includes advanced instruction in the metallurgy and metallography of the most important metals, and the analysis of fuel and of gas for technical purposes, in addition to systematic courses of lectures and laboratory work in general metallurgy.

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THE BELGIAN CEMENT TRADE.

CONSUL-GENERAL HERTSLET, in his report on Belgian trade and commerce for the year 1906 and the first half of 1907, observes that there is little to be said in regard to the cement industry, except with reference to the statistics of output and exports and particulars of the present prospects of the trade in addition to what has been mentioned in previous reports. He continues :—"Were it not that I should be guilty of repetition, attention might again be called to the systematic habits of the dealers in Belgian cement in passing off their productions of inferior quality as an article of British manufacture or British origin at exceptionally low prices, which cannot be approached by makers in the United Kingdom so long as they retain the high standard for which British cement has been, and still is, famous. It is manifestly unfair to the maker in the United Kingdom that Belgian cement can be sent to the British Isles, the colonies and foreign countries in the enormous quantities which it is, bearing descriptions and labels in English, the obvious intention of which is to encourage the supposition that the article sold is British made. The blame cannot be put so much upon the manufacturers themselves as upon the commission agents and dealers of that class, who furnish any labels that may be required to the makers to attach to the barrels or casks when forwarded from the works, many of which labels are without doubt infringements of trade-marks of makers in the United Kingdom. Persons who purchase Belgian cement are also open to criticism, provided that they dispose of it to credulous buyers with British labels attached. Many Belgian commission agents are aware of the risks they run in shipping cheap Belgian cement bearing labels which are registered trade-marks of British firms. With vigilance such practices can be arrested, but it is difficult for the British manufacturer to trace the fraudulent imitations which are being passed off under his particular brand in the colonies and foreign countries."

The total exports of Belgian cement during 1906 amounted to £910,928., the quantity being 813,329 tons. The corresponding figures for 1905 were £652,249. and 678,825 tons. In respect of the quantity of Belgian cement sent to the United Kingdom there was a considerable falling-off, amounting to 45,309 tons and £19,294., the 1906 totals being 151,274 tons valued at £169,426. In regard to British colonies the cement exports reached a considerable volume. Australia took 2,498 tons, valued at £2,797. ; Canada, 10,083 tons, worth £11,292. ; Cape Colony followed with 8,055 tons of a value of £9,022. ; India received 8,460 tons, the export value being £9,479. ; Natal, 8,714 tons, worth £9,760. ; and the Straits Settlements 2,562 tons of a value of £2,869. In addition to the above the exports of Belgian cement to Egypt amounted to 37,487 tons and £41,985. Not only did the exports to the United Kingdom fall off in 1906, but those to British colonies also declined in every case, some of the decreases being considerable. It is difficult to explain this lesser demand from British possessions for Belgian cement, unless it is that buyers are beginning to realise that much of the cement manufactured in Belgium, described as "Portland" cement, and bearing British marks and brands is not the genuine article, but is in every sense inferior to the British production, and in many cases is not entitled to be called "Portland" cement at all, according to the accepted standard.

The large growth in the Belgian cement export trade in 1906 was not, therefore, owing to a larger scale to British consumers, but the chief augmentation was in the exports to Germany, which country received 121,018 tons. America accounted for 105,414 tons as compared with 49,550 tons in 1905, but it is scarcely anticipated that this trade will be maintained, as the principal causes of its great growth in 1906 were only temporary and caused by a demand considerably in excess of home production in the United States.

Export statistics, however, are no great criterion in regard to the condition of the cement industry in Belgium from the manufacturers' point of view, for although the output and exports may be large it does not necessarily follow that the monetary returns of manufactories are proportionately great It may be of interest, therefore, to give a few brief particulars of the trade at the end of June and beginning of July, 1907.

The state of the cement trade at the time of writing the report was a quietly satisfactory though scarcely a flourishing one, and if the demand from external quarters is not so considerable as is usually the case, on the other hand orders from the home market are above the average. Prices are, however, very low and somewhat lacking in stability ; the margin of profit between the cost of production and sale price is very small, and forecasts are inclined to be gloomy. These remarks refer only to the export trade subsequent to May, 1907, up to which time there had been a considerable augmentation. Chroniclers of the cement industry appear to take a somewhat pessimistic view of the present situation, which seems scarcely warranted by the output of cement, the orders received and the promises of future prosperity.

"Portland" cement of Belgian origin continues to have a large demand, while that for natural cement is but small. Belgian manufacturers are looking forward to large orders from the United States consequent on the decision to construct more roads with cement concrete. Portland cement in large quantities is being sold on the home markets ; new contracts from abroad are, however, limited, and the prices very low and apparently likely to remain so.

The decreased demand from the United Kingdom and the colonies, though showing its effect upon exterior trade, does not appear to make any great difference to the totals of Belgian production.

A slight increase in the cement exports took place during the first six months of the present year compared with the figures for the corresponding period of 1906, but the augmentation is insignificant compared with previous years, amounting to only 3,720 tons and £3,500. The statistics for the first half of the present year show that 384,075 tons, worth £308,720., were exported, the 1906 figures corresponding to these being 380,355 tons, valued at £305,160.

The particulars which are given in the previous paragraph respecting the state of the cement trade in regard to exports are borne out by the above figures relating to the exterior trade of Belgium. The most remarkable decrease in cement exports is in regard to the United Kingdom. Up to June 30, 1906, 79,949 tons of Belgian cement were sent to the United Kingdom, whereas up to the same date in the present year only 42,397 tons have been sent to Great Britain and 6,730 tons to Ireland, or a total for the United Kingdom of 49,127 tons—a falling-off of over 30,000 tons in the half-year. The exports to Germany decreased considerably, falling from 66,325 tons in 1906 to 55,272 tons in 1907. The United States also purchased less cement than in the first half of 1906, when the figures were 41,332 tons and they have dropped in 1907 to 39,834 tons. The demand for Belgian cement for Chile was greatly accentuated, which kept up the total export figures to their usual standard, but it is scarcely likely that this market will be a lasting one. There was also a considerable increase in the exports to the Argentine Republic, the total of which reached 59,866 tons.

This is one of the first periods for many years that the United Kingdom has not been by far the largest buyer of Belgian cement in the world.

The following table shows the principal exports of Belgian cement during the years 1905-06 :—

	1905.		1906.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£
United Kingdom ..	190,583	188,720	151,274	169,426
Argentine Republic ..	66,192	63,548	89,801	100,644
Cape Colony	10,246	9,844	8,056	9,022
Canada	12,172	11,692	10,083	11,292
Brazil	41,911	40,240	45,956	51,470
Egypt	24,225	23,264	37,487	41,985
Germany	55,557	53,340	121,018	135,540
Mexico	22,108	21,228	16,180	18,121
Netherlands	79,450	76,270	92,880	104,025
Spain	19,086	18,328	14,247	15,957
United States of America	49,550	47,572	105,414	118,064
Other countries	101,745	98,197	120,873	135,382
Total	678,825	652,249	813,329	910,928

IMPORTS OF CHEMICAL MANURES INTO EGYPT.—The total value of chemical manures imported into Alexandria in 1902 was 12,912*l.*E. ; in 1905 it rose to 56,801*l.*E. and in the past year to 122,709*l.*E. The share of the United Kingdom was 4,003*l.*E. in 1902, 4,136*l.*E. in 1905, and 17,959*l.*E. in 1906. One-half of the demand is supplied by Belgium.

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Continental Notes.

IN the *Chemiker-Zeitung*, for August 21, F. M. Berberich and A. Burr continue their paper on the various methods for the determination of the fat in cream. The processes considered in this instalment are the evaporation method of Mats Weibull, Soxhlet's hydrometer method, Wollny's refractometer method, and the methods of Gerber, Sichler, Köhler and Babcock. The authors have come to the conclusion that the Röse-Gottlieb gravimetric method is the most accurate, whether in its original form with one or two extractions, or as modified by Röhrig and Rieter. The Siegfeld method is almost as accurate, and considerably more convenient and rapid. For technical purposes the methods of Gerber, Sichler and Köhler are sufficiently good, but they are not accurate enough for laboratory use.

In the same issue, Dr. P. N. Raikow describes some simple forms of tubes and cocks for use in the laboratory.

The earliest information concerning Berthold the Black, the reputed discoverer of gunpowder, forms the subject of a paper by F. M. Feldhaus, in the issue of August 24. The writer is decidedly sceptical about the passages in the ancient Chinese classics, upon which is based the claim of the Chinese to have discovered this mixture. He considers that the passages in question really refer to a combustible and not an explosive composition. The European writings within a century of the discovery would appear to justify the conclusion that Berthold discovered gunpowder as well as fire-arms. The military writers of the fifteenth century explicitly ascribe both inventions to the learned German monk of the order of St. Bernard, of the name of Berthold the Black, Master of Arts and Alchemist. The date of the invention was 1380, and eight years later he suffered death on account of his black art. And that is all that we know with certainty about Berthold Schwarz.

The action of ammonium persulphate solution upon cellulose forms the subject of a paper by Dr. Hugo Ditz in the *Chemiker-Zeitung* for August 24 and 28. The writer had observed that when a persulphate solution acidified with sulphuric acid is allowed to act upon cellulose there is a considerable evolution of gas which smells strongly of active oxygen. The recent communication of Cross and Bevan upon the peroxide of cellulose which they found in commercial bleached fabrics induced the author to examine celluloses treated with the acidified peroxide solution, to see if he could detect peroxides in them also. If after the treatment with acidified peroxide solution the cellulose be well washed and a solution of potassium iodide and starch be added, the cellulose is coloured red or blue, showing the presence of peroxide. Ditz found that the peroxide is very rapidly destroyed by boiling with water; two minutes boiling was sufficient to entirely prevent the reaction with potassium iodide and starch. He found also that the treated cellulose contained an acid insoluble both in hot and cold water.

The issue of August 28 also contains an article by Dr. Victor Samter, on the organisation of chemical factories. As regards the labour question the problems are of an entirely different nature to those in engineering factories, about which so much is heard, for the labour is almost entirely unskilled and unorganised. There are, moreover, a great number of different operations to be carried on which differ very greatly one from another. In some of these it is possible to pay the men according to the output, or to give them bonuses on it, but in others, such as the distillation of nitric acid, it is far more important that the operation should be carried out with care than with rapidity. In such cases it may be advisable to give bonuses for yield instead of output, but care must be exercised that the production is not falsified by such means as taking material from the reservoirs and adding it to the material that is supposed to have been just made. As some of the operations carried on are much more important and difficult than others, it is advisable to pay them at a higher rate. But this introduces the difficulty that a man may have to work at several different rates during different parts of the same day. The necessary booking may be simplified by providing each man with a sheet on which the hours are entered that he spends on the different jobs. It is, of course, essential that a record be kept of all goods that enter the factory, and that an analysis be made of all important raw materials. One of the most difficult problems in every commercial or industrial concern is the organisation of a satisfactory method of calculating the cost of production. In chemical works the problem is rendered more difficult by the existence of by-products. When these are of comparatively small value they can be simply booked at the selling price, but when a process produces two materials of almost equal value it is far more difficult. As a basis for the calculation of the cost of production in many factories, sheets are filled up every day with the consumption of the principal raw materials, filter-cloth, etc. A system of giving bonuses to workers for suggestions made is considered. A works chemist requires not only to have a knowledge of chemistry and technology, but also to be a good organiser.

THE INDIAN OILSEEDS CROP.

THE first general Memorandum on the sesamum (til or jinjili) crop of the season 1907-08, has been issued by the Indian Statistical Department.

On the average of the five years ending 1905-06 the total reported area under sesamum in India was 4,899,900 acres, and of that total 70% lay in the provinces dealt with in this memorandum.

The rains in the present season did not begin in the North-central and North-western parts of India till late in July. Sowings of sesamum, which is not a food crop, have therefore been greatly delayed, and the returns of acreage so far obtainable are so incomplete as to render undesirable a general comparison of the figures with those returned at the same date last year. The total area reported in the beginning of August, 1906, was 1,644,600 acres, excluding the United Provinces, which made no definite estimate. The area reported up to the present is 1,442,800 acres, but sowing is in progress over large tracts. The condition of the crop so far is good, though in Bombay there has been an excess of rain.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total area under sesamum in British India is ordinarily cultivated in that province.

United Provinces (20%).—There was some rain in the east of the province at the end of June, but general rain did not set in till the end of the third week of July. Good rain has, however, continued since then. In the eastern districts, sowings of mixed sesamum began about the usual time, in the third week of June; elsewhere sowings were only beginning at the date of report (15th August), as food crops had to be sown first. It is therefore impossible to make any estimate of the extent of sowings at this stage. Sesamum is in ordinary practice one of the last crops to be sown, and the area will be governed largely by conditions prevailing in the second half of August.

Central Provinces and Berar (18.5%).—In some of the northern districts rainfall was deficient, and sowings of the early (*Kharif*) crop were in progress at the date of report (10th August). In the remaining districts sowings were successfully carried out, germination was generally good, and the seedlings suffered less than cotton from the long spell of dry weather in June and the beginning of July. Resowing was necessary in certain places. The condition of the young plants is at present satisfactory, and prospects are favourable. The sowing of the late (cold weather) crop had not begun up to 10th August; but there is at present no reason to believe that the total area for both early and late crop will differ materially from that sown last year (808,800 acres).

Madras (17.2%) reports the total area sown in *raiyatwari* villages (about two-thirds of the province) up to the end of July as 212,400 acres, which is about 32% more than the area at the corresponding date of last year. The increase is attributed to seasonable rainfall. The total area reported from villages other than raiyatwari is 11,600 acres, which is about 41% more than that reported at this date last year. The crop is reported to be in fair to good condition.

Bombay (8%) reports the total area sown up to 5th August in British districts and native states to be 324,000 acres, which is about 38% smaller than the area at the corresponding date of last year. Deficient early rains restricted the sowing of the early crop. The late crop is still being sown. The condition of the crop is reported to be fairly good at present, but a break in the rains is desired in places for the late sowings.

Sind (2%) reports a total area of 35,000 acres, which is about 40% below last year's area. Sowings, however, still continue in Upper Sind frontier; elsewhere the decrease is due to insufficient water supply. The crop is in fair to good condition at present.

Panjab (4%) reports 62,600 acres (irrigated 16,600 acres) sown up to the end of July, as compared with 95,500 acres finally ascertained for last year—a decrease of 34.4%, attributed to the failure of the early rains. Sowings, however, still continue.

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THE TRADE AND COMMERCE OF MEXICO.

IN his report on the trade and commerce of Mexico for 1906, Mr. Consul L. J. Jerome points out that Mexico has now taken her place among the nations of the world; he also expresses the hope that its mercantile communities will take advantage of this market and not allow it to be monopolised by trade rivals.

The total value of imports in Mexican currency for the fiscal year ended June 30th, 1906, was 220,651,047 dol. 49 c., an increase of £4,200,000. on the previous year. The exports for the same period were valued at 271,138,809 dol. 32 c., and, in the previous year, 208,520,451 dol. 43 c. The total foreign trade showed an increase of £10,506,450.

The table of imports given in the report shows that the import trade of the British Empire to Mexico still takes second place, although, owing to a decrease of imports from the U.K., there was during 1905-1906 a net decrease in the imports from the British Empire of 1,707,638 dol. 97 c. The Americans continue to make strenuous efforts to obtain control of Mexican trade; scarcely a week passes without the country being visited by the representative of some American commercial body. Many of the larger American machinery concerns have branch houses in Mexico, which, added to the proximity of the two countries, gives them an enormous advantage.

The declared value of American imports into Mexico for the fiscal year ended June 30 last amounted to 145,600,131 dol, while those for the whole of Europe were only 72,411,937 dol. The American import trade showed an increase of 45,623,263 dol. over the previous year, whereas that of the whole of Europe showed a decrease of 3,207,401 dol., of which 2,633,661 dol. represents the decrease in imports to Mexico from the United Kingdom and France.

The following table shows a comparison of Mexican imports:

Year.	United States.	United Kingdom.	Germany.
1899-1900	£6,205,283	£2,096,640	£ 1,334,769
1900-01	7,037,991	1,984,910	1,415,990
1901-02	7,806,438	1,653,219	1,290,219
1902-03	8,102,909	2,123,069	1,914,802
1903-04	8,521,754	2,003,230	1,908,216
1904-05	9,997,705	2,164,370	2,045,143
1905-06	14,560,031	2,034,464	2,081,455

The principal imports of chemicals, etc., into Mexico were as follows:—

	July to Dec. 1906.	Fiscal Years. 1905-06.	Fiscal Years. 1904-05.
Animal products ..	£1,001,338	£1,638,683	£1,417,726
Vegetable products ..	1,347,160	3,261,693	3,042,690
Chemical and pharmaceutical products ..	414,549	774,427	707,600
Arms & explosives ..	205,816	412,224	505,376

Amongst the exports were the following:—

	July to Dec. 31, 1906.	Fiscal Years 1905-1906.	1904-1905	1903-1904.
	£	£	£	£
Gold	1,275,660	3,167,578	2,836,188	1,072,644
Silver	4,874,564	12,540,008	6,552,864	7,907,439
Copper	1,333,517	2,865,590	2,980,342	2,323,421
Lead	187,512	496,781	550,466	432,564
Other metals ...	243,311	198,962	111,036	185,895
Dyewoods	20,844	53,509	69,181	84,755

Notwithstanding the imports of gold for minting purposes, and of gold coin, the exports of gold show an increase of £333,389.

The Minister of Finance gives the export of silver as follows:—

	1905-1906.		1904-1905.	
	Dollars	c.	Dollars.	c.
Mexican silver dollars ..	49,671,025	0	1,899,891	92
Foreign silver coins.. ..	123,453	50	77,971	0
Silver slimes	66,043,099	81	53,014,016	12
Silver ore, &c.	9,562,505	46	10,531,766	66
Total value of silver exports .	125,400,083	77	65,523,645	70

This is an increase of 60,000,000 dol. in the value of the silver exports over those of the previous year.

The exports of refined copper (according to Senor Limantour's last statement) were:—

Year.	Quantity. Metric tons.
1901-02	51,507
1902-03	57,220
1903-04	55,582
1904-05	55,578
1905-06	50,914

Copper Ore.—The exports of copper ore were:—

Year.	Quantity. Metric tons.
1901-02	10,366
1902-03	4 911
1903-04	24,704
1904-05	82,169
1905-06	73,475

Lead.—The exports of lead were:—

Year.	Refined. Metric tons.	Lead Ore. Metric tons.
1901-02	98,322	99
1902-03	98,942	29
1903-04	94,028	1
1904-05	97,576	—
1905-06	92,346	1

Sesame.—The ajonojoli, or sesame production, in 1904, amounted to 825,858 gallons.

Indigo.—126,296 lbs. of indigo were produced in 1904, about one-half being produced in Chihuahua and the rest in Morelos and Puebla.

Dividivi.—The production of dividivi, or cascalote, in 1904 was 3,382 tons, the largest amount coming from the State of Michoacan.

Petroleum.—Petroliferous lands extend from the Hacienda of San José de las Ruinas, in Central Tamaulipas, to the district of Valles in San Luis Potosi (where the Ebano oil deposits are being worked) through the counties of Uzuluama, Tuxpam and Papantla in Vera Cruz. Further to the south another region is found which embraces the Vera Cruz counties of Acayucan and Minatitlan, and extends southwards through the States of Tabasco, Campeche, and Chiapas. Petroleum has also been found in small quantities in the Federal district of Mexico, Jalisco, and Oaxaca.

Bituminous asphalt also seems common in parts of the States of Vera Cruz and San Luis Potosi. The Ebano oil is being used as fuel for locomotives by the Mexican Central Railway. The oilfields in Northern Vera Cruz are not yet being operated commercially but are being actively developed. The oil of the field of Southern Vera Cruz, especially that of Minatitlan, is being stored, preparatory to the completion of large refining works, the property of Messrs. S. Pearson and Son, Limited. This Minatitlan oil is said to require considerable refining, being very rich in naphtha; it is the intention, once the oil can be refined to the required degree, to use it as fuel for the locomotives of the Tehuantepec National Railway. These locomotives are all oil burners, but the oil is at present imported. It is also intended to convert the locomotives of the Mexican Railway and of the Vera Cruz and Pacific Railway into oil burners as soon as the Minatitlan refineries are completed. This will cause another decrease in British imports into Mexico. The Mexican Railway now imports its patent fuel and coal for its engines from Wales, but once its locomotives are converted, the importations will cease.

Mining.—The premier industry of Mexico is mining. On account, however, of the wide scope, mining is a most difficult subject to report on. "In the absence of any official data, I have," says the Consul, "been obliged to make my remarks on the subject as brief as possible."

In September, 1906, there were 1,572 gold mines (one-third of these being situated in Sonora), 6,467 gold and silver, 5,461 silver only, 1,373 gold, silver and copper, 1,317 gold, silver and lead, 262 gold and copper, 794 silver and copper, 314 silver, copper and lead, 3,518 silver and lead, 4 silver and manganese, 5 silver and mercury, 52 antimony, 86 sulphur, 1 bismuth, 970 copper (Sonora again being the State in which this metal is the most extensively found), 211 copper and iron, 25 copper and lead, 40 tin, 5 tourmaline mines (all in Lower California), 383 iron mines, 9 manganese, 151 mercury, 21 opals, 94 lead, 6 "sal gema," 1 turquoise in operation in Lower California (an unworked deposit of turquoise exists in Northern Zacatecas) and 49 zinc.

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COLIMA.

Mining.—There has been very little progress in the mining industry in the State of Colima in the past two years. Discoveries of large bodies of iron ore have been made, and these are said to be not only very extensive but of very good quality. The ore occurs in the form of magnetite and hematite.

Several new discoveries of copper ore are also reported, the assays from which run very high. These ores occur as malachite, azurite, chalcocite, chalcopyrite, and black oxide of copper. There have also been reported two discoveries of lead ore in the form of galena and cerussite. Manganese and graphite are claimed to have been discovered, but so far not verified. There has been very little intelligent prospecting done in the past two years, and no mining. The coast range of mountains is almost unexplored.

The Mexican Central Railway has surveyed and is projecting a branch line from Colima to Autlan, some 80 miles to the north. This line will open up a very rich copper district where there are already several shipping mines, although they have to send their ores on muleback some three days' journey over the mountains to the railroad.

Alcohol.—Alcohol is manufactured at the different sugar factories and is said to be a very profitable business, but is hampered by lack of transport; annual production 262,000 litres, worth 23c. per litre.

Indigo.—The growing of indigo anil and the making of dye has gradually died out in the State, and what was once a flourishing industry is now almost at an end; annual production, 10,000 kilos., worth about 3 dol. per kilo.

Palm Oil.—The palm trees which produce palm oil are the most easily cultivated and prolific of the palm trees. There is a steadily increasing demand for the oil, more especially for the manufacture of soap. The trees begin bearing at five years of age and from seven years of age on bear indefinitely. Practically no cultivation is required. Annual production, 283,000 kilos., worth 42c. per kilo.

LOWER CALIFORNIA.

Exporters should note that all quotations must be made c.i.f. San Francisco. Goods should be shipped in bond on Mexican papers. If this is done a buyer can immediately figure the cost of the goods laid down in Ensenada. The American method is very different to the British, no mention being made of cash except to say that prices quoted are subject to so much extra discount. The American knows the financial standing of the purchaser. If this is not satisfactory he does not ship the goods; he will not, however, insist on payment in full unless the credit is bad.

Mining.—The mining industry within this Vice-Consular district is at last coming to the fore. It has been in a chaotic condition for a number of years, but is now being carried on for production. For years the northern district of Lower California has been subjected to the speculator and the promoter, the country has been exploited by the "graphite and sidewalk" methods, and the promoters have pencilled out some large profits "on paper." Legitimate mining money could not be induced to even look at property if it was situated in the northern district of Lower California.

At present miners are making large investments in both gold and copper properties. A considerable amount of work has been done on the copper properties about 200 miles south of Ensenada, and the showing has warranted the erection of a smelter, and the owners are very well satisfied with the results and give a very good report of the outlook in the mine. Capital from British Columbia has already been invested to an amount exceeding 200,000 dol.

MAZATLAN.

Mining.—Mining is the principal industry of this State, but it is in its infancy, being kept back through lack of means of transport. Only ores of very high value can afford to pay the heavy charges of freight to the coast, in many cases 100 dol. a ton. The system of treating the ores is by means of cyanide; also lixiviation. One up-to-date plant with tube mills has just been erected at Copala by a British company, which is a great success. All the ores exported go to the United States. The following table shows the value of metal exported in bar and ores:—

Gold	$1,567,566
Silver	3,328,500
Copper	120,130
Zinc	14,530
Lead	8,120
Total	$5,038,846

MONTERREY.

Mining.—As this city depends very largely upon the mining industry, the condition of the mines in this and the neighbouring States of Coahuila and Tamaulipas affects its prosperity to a large extent. During the past year there has been a great boom in zinc mining, many old and abandoned lead and silver mines having been reopened and are now being worked at handsome profits. The zinc ores are all exported to the United States of America.

SOCONUSCO.

Mining.—There is one mine near Exquintla, but it has been abandoned for years. In the adjoining department of Motozintla prospectors are finding rich indications, and several denouncements have been made. Probably a company will be formed soon to explore the locality; the distance from here is about 65 miles over very bad roads.

Rubber.—Rubber, on the other hand, is having quite a boom. There are several large plantations opened up here already, and clearing is going on now for planting up new ones this year The native tree, *Castiloa elastica*, is what is being planted up and the soil, climate, etc., seem to be exactly suitable. These plantations belong principally to American companies. Tapping will probably begin this year on the older plantations, when some accurate idea may be formed of the production. Rubber has not been cultivated before in these parts on an extensive scale, and the results are being carefully watched by all interested in this cultivation.

TAMPICO.

The import of chemical goods at Tampico during 1905-06 was as follows:—

U.S.A.	£74,241
Germany	30,209
U.K.	56,455
France	19,739
Spain	2,496
Belgium, ...	1,097
Italy	1,558
Austria-Hungary	46
Netherlands	—
Switzerland	967
Other European Countries ..	456
Canada	227
S. America	3,266
Asia	7
Africa	—

VERA CRUZ.

The principal articles of import at Vera Cruz for the years 1903-1904 and 1905-1906 were:—

	1903-1904.	1904-1905.	1905-1906.	Increase. 1904-05.	Increase. 1905-06.
Cotton, woollen & linen yarn & textiles	£ 1,110,473	£ 1,112,555	£ 1,896,429	£ 2,082	£ 783,874
Chemicals & drugs	270,405	283,271	534,625	12,866	251,354

The exports at Vera Cruz for the same period were as follows:

	1903-1904 Tons.	1903-1904 Value £	1904-1905 Tons.	1904-1905 Value £	1905-1906 Tons.	1905-1906 Value £
Vanilla	108	217,411	72	207,579	206	402,080
Dye-wood	2,355	10,401	2,415	6,676	2,384	7,053
Rubber	144	40,766	125	35,076	192	55,723
Ores, bullion, etc. ..	.. .	817,454	....	1,674,493	....	4,063,278

	1904-1905 Increase	1904-1905 Decrease	1905-1906 Increase	1905-1906 Decrease
Vanilla	9,832	....	184,669	. . . .
Dye wood	3,815	.....	. ..	3,438
Rubber	5,690	...	14,957	.....
Ores, bullion, etc. ..	....	857,039	3,245,824	.....

Merchants should address inquiries on trade or commercial matters to the Commercial Intelligence Branch of the Board of Trade, at 73, Basinghall-street, London. The Mexican Consulate keeps the branch regularly posted on all matters of general interest. Price lists and catalogues are filed at the Mexican Consulate for reference.

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during August, 1907, as compared with August, 1906:—

ARTICLES.	QUANTITIES. Month of August. 1907.	1906.	VALUE. Month of August. 1907.	1906.
OIL SEEDS.				
COTTON:			£	£
From Egypt .Tons	10,852	8,029	87,262	54,140
„ Other Countries . „	36,616	25,987	202,269	137,616
Total .. „	47,468	34,016	289,531	191,756
FLAX OR LINSEED:				
From Russia .Qrs.	6,345	15,617	12,425	31,335
„ U.S.A. . „	17,040	7,119	35,205	14,033
„ Argentine Republic . „	72,907	33,654	199,118	68,936
„ British East Indies „	138,532	38,207	303 067	80,656
„ Other Countries . „	16,612	48,308	34,283	96,001
Total .. „	271,236	142,905	584,098	290,961
RAPE:				
From Russia .Qrs.	1,369	899	2,502	1,532
„ British East Indies „	26,884	1,597	53,759	2,642
„ Other Countries . „	1,704	1,073	5,343	2,914
Total .. „	29,957	3,569	61,604	7,088
OILS, REFINED:				
Cocoanut..Cwts.	8,379	13,669	16,001	21,373
Cottonseed Tons	288	464	9,462	11,395
Olive.....Tuns	327	250	16,891	12,347
Palm.....Cwts.	123	489	191	590
Total Value £	—	—	42,515	45,705
OILS.				
Fish(train,blubber and Sperm) Tuns	3 421	4,436	69,968	76,845
Cocoanut, unrefined....Cwts.	35.157	22,694	63.773	32,850
Olive „ Tuns	525	1,141	19,921	38,431
Palm „ Cwts.	142,893	148,178	170,664	173,795
PETROLEUM:				
Crude ....Glns.	—	1,200	—	59
Lamp Oils .. „	9 104,523	14,510,515	144,356	272,678
Spirit .... „	5,242,764	2,932,879	153,558	78,057
Lubricating Oils .... „	3.167,483	3.136 065	110,316	102,140
Gas Oil ... „	5.205,778	7,788,747	53,063	103,203
Fuel Oil ... „	—	1,013,470	—	8,208
Total of Petroleum „	22,720,548	29,382,876	461,293	564,345
SEED OIL:				
Cotton-seed Tons unrefined .. „	15	96	356	1,779
Linseed pure „	328	597	7,720	12,014
„ not pure „	62	70	1 072	1,289
Rape-seed „	620	765	18,572	18,038
Other Sorts „	651	488	17,360	12,746
TURPENTINE Cwts.	92,818	40,144	180,499	83,156
SOAP STOCK „	11,466	1,767	7,449	1,547

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of August. 1907.	1906.	VALUE. Month of August. 1907.	1906.
TALLOW AND STEARINE:			£	£
From France Cwts.	2,433	5,096	3,015	6,636
„ U.S.A. .. „	57,745	55,396	58,306	72,765
„ Argentine Republic „	58,788	27,470	102,649	41,331
„ Australia „	59,282	56,078	99.283	80,484
„ New Zealand „	46,856	48,228	83,057	69,992
„ Other Countries „	14,665	12,615	23,953	18,287
Total.. „	219,769	204,883	371,163	289,495
GUM:				
ARABIC ....Cwts.	5.666	4,606	9,392	7,340
LAC-DYE, SEEDLAC, SHELLAC, and STICKLAC ..Cwts.	13,644	4.862	134,410	43,931
ROSIN .....Cwts.	247,061	168,250	138,141	82,663

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during August, 1907, as compared with August, 1906:—

ARTICLES.	QUANTITIES. Month of August. 1907.	1906.	VALUE. Month of August. 1907.	1906.
GREASE, TALLOW, AND ANIMAL FAT ....Cwts.	63,607	59,623	£ 90,304	£ 80,973
OILS, Refined:				
Cocoanut - - Cwts.	204	2,327	568	3,368
Cottonseed - - Tons	1,693	1,678	49,433	35,723
Olive - - Tuns	35	3	3,484	198
Palm - - Cwts.	1,093	2,106	1,734	3,077
Total. Value £	—	—	55,219	42,366
OILS:				
Cocoanut, Unrefined Cwts.	6,483	1,540	11,418	2,363
Olive „ „ Tuns	—	—	—	—
Palm „ „ Cwts.	611	—	900	—
OIL, SEED:				
To Germany ....Tons	92	73	2,889	1,614
„ Netherlands „	8	9	201	147
„ Belgium .... „	74	21	1,971	411
„ Austria-Hung. „	8	11	196	239
„ Egypt .... „	132	178	3,331	3,982
„ Brazil .... „	171	235	4,758	5,298
„ British India „	70	77	1,841	1,697
„ Straits Sts. „	28	35	860	1,039
„ Ceylon .... „	5	7	140	143
„ Australia .. „	281	381	7,975	9,553
„ Canada .... „	128	161	3,302	3,388
„ Other Co'tries „	910	1,054	28,325	25,063
Cottonseed Oil, Unrefined .....Tons	—	30	—	595
Linseed Oil:				
Pure ..... „	1,429	1,750	40,503	41,184
Not Pure ..... „	167	234	4,324	5,075
Rapeseed Oil .. „	267	221	9,380	5,619
Other Seed Oils „	64	7	1,592	128
Total .... „	1,957	2,242	55,799	52,604
SOAP STOCK Cwts.	1,531	834	2,441	802

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MINERAL OILS IN ITALY.

THE reduction of the tax on petroleum and other mineral oils from 48 lire (£1. 18s.) to 24 lire (19s.) per hectolitre (22 gallons) is, in the opinion of the British Consul-General in Italy one of the greatest benefits to the community which could have been conferred by the Finance Minister. It is especially a boon to the poorest class, to whom mineral oils have become the only illuminant, and who felt severely the crushing nature of the tax. The same reduction will apply to varnishes containing mineral oils, which will benefit trade by making them considerably cheaper. It will also have the effect of reducing the cost of running automobiles and motor boats, both of which have been handicapped by the price of the fuel. This will cause a considerable increase in the output of these machines, which are now being so extensively manufactured in Italy. A certain amount of petroleum is found and refined in Italy itself, and this has hitherto paid a tax of 10 lire (8s.), which tax will be abolished. All contracts for lighting by mineral oils will be reduced by the amount of the tax. It is calculated that the stock of oil in Italy which has paid the higher duty is practically exhausted, so the reduction in price began to take effect on April 1, 1907. Enormous as is this reduction, there can be no doubt that it is sound policy, and that it will be followed by an equivalent increase in consumption, which will in the end more than compensate for the initial loss. Petroleum was first taxed in Italy in 1864, when a duty of 2 lire per hectolitre (22 gallons) was imposed. This was increased from time to time, till in 1901 the tax had become 48 lire (£1. 18s.). The fall in consumption was heavy, but this was largely caused by the introduction of acetylene gas and electric light. The home production amounts to 64,000 hectolitres (1,408,000 gallons).

Correspondence.

*** *We do not hold ourselves responsible for the opinions expressed by our correspondents.*

CASEIN.

(*To the Editor of the Chemical Trade Journal.*)

Sir,—"Liverpool Inquirer" has seen articles made from "Galalith," a celluloid-like compound from casein and formaldehyde. This material was invented by Messrs. Adolf Spitteler and W. Krische, and is already manufactured in very large quantities by the Vereinigte Gummiwaren-fabriken Harburg-Wien, in their factory at Wimpassing, near Vienna.

Yours, etc.,

12, Mark Lane, London, E.C. OSCAR GUTTMANN.

(*To the Editor of the Chemical Trade Journal.*)

Sir,—The enclosed clipping is from your *Journal*. We are manufacturers of casein, and shall be very pleased to give your correspondent any information he may wish in regard to same. The manufacture of solids of casein is not a new idea by any means, but the industry is principally in the hands of one very large concern who consume enormous quantities of casein. The firm referred to is the Gallalith Company of Germany, France, and Austria. Their products are manufactured by patented process.

Yours, etc.,

Sheepcote Lane, Battersea, London, S.W. CASEIN, LIMITED.

Books Received.

NATURE'S HYGIENE AND SANITARY CHEMISTRY. By C. T. Kingzett, F.I.C., F.C.S. Pp. xvi. + 527. London: Bailliére, Tindall and Cox. 7s. 6d. nett.

PRACTICAL TEST-BOOK OF CHEMISTRY. By John Dabney Palmer, M.A., M.D. Pp. 190. London: Chapman and Hall, Ltd.

CATALOGUE OF SECOND-HAND MACHINERY. Pp. 306. Thomas W. Ward, Ltd., Sheffield.

Legal Intelligence.

CHANCERY OF LANCASHIRE.

(*Before the Deputy Chancellor.*)

THE BLEACHERS' ASSOCIATION, LTD. *v.* J. A. YOUNG.

On Wednesday last, at the Vacation Sitting at Liverpool of the Chancery Court of Lancashire, the Bleachers' Association applied for an interim injunction against James Albert Young for breach of covenant.

Mr. Bather, for the plaintiffs, said that in 1900 the Association took over the business of John Young and Co., who were bleachers at Manchester. The defendant was one of the persons interested, and he was paid £2,000., in consideration of which he agreed that during a period of twenty years he would not, as manager, agent, director or servant, directly or indirectly, engage in the business of a bleacher, or allow his name to be used in connection with any such business, except that of the plaintiffs, within the United Kingdom. From that time until March, 1906, he acted as assistant manager or manager at the works where the business of John Young and Co. had been carried on. It was then found that he was taking part in the promotion of the Culcheth Bleaching and Dyeing Company at Newton Heath, and he was discharged from the service of the plaintiff company. He had since taken an active part in the Culcheth Company's business and obtained orders for the bleaching of goods. It was alleged that while in the service of the Association he induced some of their workpeople to agree to enter the employment of the Culcheth Company.

These allegations were denied by Mr. Young in an affidavit which was read by his counsel, who contended that the covenant was void, the area being too great and the time longer than was necessary.

The Deputy of the Chancellor granted the interim injunction asked for.

NITRATE OF SODA.

THE market remains comatose, with a drooping tendency; at this time last year it was very active at advancing prices, 9s. 5d. per quintal, f.o.b., being freely paid for prompt shipment, compared with the present nominal quotation of 8s. 11½d. According to a leading trade circular, "anxious sellers are very few, and any serious buying would raise values again," but the *desideratum* is conspicuous by its absence. This is, perhaps, hardly to be wondered at, considering that stocks in Chili reach 560,000 tons, while the September-October output of not less than 320,000 tons will further be available for shipment by the end of the year! All the European ports are crowded with nitrate, Hamburg having 45,000 tons against 14,300 tons a year ago, and Dunkirk 29,000 tons against 13,000 tons. The large chemical works on the Rhine should have no difficulty in filling their requirements on favourable terms, as 12,000 tons have just arrived at Rotterdam, and three more large direct cargoes are shortly due there. Tonnage is plentiful on the West Coast, there being 90,000 tons register disposable, and chartered ships are arriving freely at the nitrate ports. The best chance for the market would appear to be another lock-out at Iquique or labour troubles on the "pampa."

SUPERPHOSPHATE.—Negotiations are taking place in Vienna with a view to the renewal of the Superphosphate "Kartell," so desirable on account of the great advance in the price of the raw material. The German manufacturers are agreeable, but the Austrian producers, being better supplied with Algerian and Tunisian phosphate, seem to be holding back.

THE DAILY PRESS AND FIRES AT CHEMICAL WORKS.—On Friday week an outbreak of fire occurred at the Hull works of Messrs. Major and Co., Ltd. A certain amount of damage resulted, but the fire was practically confined to one department, and the execution of orders and the receiving of goods, etc., will be in no way affected, while the damage is fully covered by insurance. In reporting this fire, several of the daily papers dealt with the matter in a very sensational manner, and from one of the reports now before us it would appear that the writer had exhausted his vocabulary in his attempt to produce a realistic but exaggerated description of a chemical works fire. It is greatly to be deprecated that liberties should be taken with the facts in transmitting reports of this description to the general public, and it would certainly be advantageous if such highly coloured productions were rigidly scrutinised before publication.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Lixiviation, Dissolution, and Filtration of Materials. A. Hellwig. 19,127. August 26.
Smoke Consumer. H. Wilkinson. 19,129. August 26.
Red Vat Dyestuffs. O. Imray. 19,158. August 26.
Colouring Matters of the Anthracene Series. J. Y. Johnson. 19,172. August 26.
Cement from Furnace Slag. G. Goldman. 19,180. August 26.
Treatment of Paraffin Scale or Wax, Fatty Acids, etc. J. Bateman. 19,184. August 26.
Edge-runner Mills. A. Stevenson. 19,302. August 28.
Crushing Machine. W. M. Howells and A. Berry. 19,309. August 28.
Cement Manufacture. J. Moeller. 19,320. August 28.
Substitute for India Rubber. E. D. Tupper. 19,336. August 28.
Thermostat. H. G. Geissinger. 19,338. August 28.
Raising or Forcing Liquids. H. A. Humphery. 19,341 August 28.
Tube Mills. A. H. Moss and T. Redfern. 19,401. August 29.
Agitating and Mixing Colours, Paints, or Dyestuffs. W. E. Evans. 19,427. August 29.
Vacuum Drum Filters. H. Hencke. 19,431. August 29.
Disintegrating and Pulverising Machines. I. Parker. 19,441. August 30.
Azo Colouring Matters. J. Y. Johnson. 19,479. August 30.
Preventing Inhalation of Dust, etc. The St. John Del Rey Mining Co., Ltd. 19,488. August 30.
Feed-water Heaters. W. Mycock. 19,522. August 31.
Cementation Processes. M. Ruthenburg. 19,547. August 31.
Sulphur Dyestuff. P. A. Newton. 19,548. August 31.
Safety Explosives G. Schultz. 19,565. August 31.
Dichloro-ethylene. P. Askenasy and M. Mugdam. 19,576. August 31.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Soap Manufacture. Thompson. 18,925.
Regenerating Coke Ovens. Defays. 19,146 and 19 146A.
Treatment of Casein. Desgeorge and Lebriel. 23,789.
Sulphurised Dyestuffs. Hirschberger, Maron, and Levinstein, Limited. 24,008.
Extraction of Metals from Ores. Fernau. 24,905.
Yellow Monoaxo Dyestuffs. Lake 25,193.
Electric Furnaces. British Thomson-Houston Co. 26,867.
Cement Manufacture. Hocke. 27 053.
Obtaining Metallic Zinc. Thompson. 28,575.

1907.

Separation of the Constituents of Atmospheric Air. Soc. L'Air Liquide (Soc. Anon. Pour l'étude et L'Exploitation des Procédés Georges Claude), and Levy. 3,302.
Recovering Chromic Acid from Solutions of Sulphate of Chromium. Chem. Fab. Buckau. 9,636
Colouring Matter. Lakes. Badische Anilin and Soda Fabrik. 10,363.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Extraction of Copper and other Metals from Pyrites. G. B. Ellis, of Mewburn, Ellis and Pryor, 70 and 72, Chancery Lane, London (communicated by Les Produits Chimiques de Croissy, 82, Rue St. Lazare, Paris). British Patent 17,441. August 2, 1906.

The roasted pyrites are mixed in a dry state with 2 to 5% of commercial chloride of lime, or they are moistened with solutions of hypochlorites of alkalies or alkaline earths containing a like quantity of available chlorine. The mixed ore is then introduced into vats where it is sprayed with an excess of dilute sulphuric or hydrochloric acid and warmed. If lead is present in the ore it is preferable to employ hydrochloric acid. The reaction is allowed to proceed for 12 to 24 hours; the liquors are then drawn off, and the residue washed with luke-warm dilute acid and then with water. The iron residues are then practically free from foreign metals.

The inventors observe that they are aware that solutions of hypochlorous acid, chloride of lime or other hypochlorites and acids, with or without the addition of nitrate of soda, have been employed for the extraction of gold and other metals from ores, but under conditions calculated to produce *aqua regia*, or hypochlorous acid as the solvent reagent, but the object of the present invention is not to generate hydrochlorous acid, but to rely on the selective action of free chlorine in acid solutions for the separation of copper and other foreign metals contained in roasted pyrites from the oxide of iron.

Improvements in Gas Producers. H. Becker, 131, Osborne Road, Pontypool. British Patent, 18,981. August 11, 1906.

This invention relates to improvements in gas producers of the kind in which the coal or coke is charged into a body lined with fire-bricks, and provided at its lower end with a grate on which the incandescent fuel rests, and through which air, or air and steam, is drawn or driven. The inventors observe that such gas producers as heretofore made possess a number of disadvantages in practice, amongst which may be mentioned the fact that it is extremely difficult to properly regulate the even combustion of the fuel, that the fuel frequently, due to the extreme heat, cokes in large hard lumps, and that the ashes fuse and form irregular clinker, which is difficult to manage and prevents the fire burning evenly, and at the same time also forms spaces which prevent the carbonic acid gas from coming into intimate contact with the incandescent fuel, the gas blowing through and causing a yield of poor gas. Moreover, owing to the intense heat, the ashes fuse with the hot bricks of the lining and form hard projections, which restrict the area of the incandescent zone and prevent the coal from dropping, reducing the quantity of the gas and prejudicing its quality.

The present invention has for its object to obviate these disadvantages, to which end provision is made for dispensing with the firebrick lining. In carrying out the invention a producer is constructed comprising an outer iron shell of cylindrical, square or other suitable shape, and arranged vertically over a trough filled with water, the water forming a seal. Within this shell is arranged a cylindrical or other suitably shaped body of metal, which is open both at the top and bottom, the body being either supported or suspended within the shell and placed at such a height that its lower open end is above the level of the water in the trough. This cylindrical or other body has no grate or perforations, and is furnished with an external jacket providing an annular space around the body for the reception of a supply of water for the purpose described later. A space is left around the water-jacketed body between it and the external shell, this space being provided with inlets for the supply of air. The upper end of the internal body and external shell are hermetically closed by means of a wall of brick, at the top of which is situated the charging opening for the fuel, and which is also provided with a lateral outlet for the gas obtained. The annular jacket around the internal body is filled with water, the annular space being closed at its lower end and open at the upper end.

In a modified construction of the apparatus the upper end of the annular boiler does not directly open into the air space surrounding it, but is closed and is provided with an external outlet pipe conveying the steam generated into the air inlet or air space. The operation of this form of the apparatus is, however, in other respects, the same as that above described.

A sheet of drawings shows the construction.

Improvements in Electrolytes for the Electro-deposition of Copper. S. O. Cowper-Coles, Grosvenor Mansions, Victoria Street, Westminster, London. British Patent, 20,380. September 13, 1906.

This invention has for its object to provide an electrolyte from which the copper deposited is smoother and of a better quality than hitherto. To an electrolyte of ordinary composition the inventor adds varying quantities of aluminium sulphate. He has found in practice that by employing an electrolyte composed of copper and aluminium sulphate and sulphuric acid when large current densities are employed, the quality and smoothness of the copper are considerably improved. For example, with a solution containing about 12% of copper sulphate and 12% of free sulphuric acid, it is found that the addition of about 1% of aluminium sulphate is of considerable advantage when working at a temperature of about 65° C. The inventor is aware that it has been proposed to add a salt of aluminium, such as the sulphate, to the solution of a metal, such as copper, to be electro-deposited, the object being to obtain a deposit containing a quantity of aluminium, that is to say, an alloy. In the case of

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the present process the aluminium sulphate is added in such proportion and under such conditions that no deposit of aluminium is obtained, the addition of the salt acting, as above stated, merely to improve the quality of the copper deposited.

Electrometallurgical Process for Extracting Copper from its Ores. L. Jumau, 18, Rue Mogador, Paris. British Patent, 27,120, 1906. (Date claimed under International Convention, November 29, 1905.)

The claims are :—(1.) A process for extracting copper from its ores, which consists in dissolving the copper of the ore in an ammoniacal solution, electrolysing the solution thus obtained in presence of a sulphite, either directly or after precipitation and re-dissolution of the copper and reduction of the new solution by treatment with sulphur dioxide, and recovering the ammonia and sulphur dioxide used in the process.

(2.) In the process referred to in Claim (1), leaching the ore with a solution of ammonia mixed with ammoniacal salt, preferably ammonium sulphate or sulphite. (3.) In the process referred to in Claim (1), reducing to cuprous salts the cupric salts in the ammoniacal solution which contains the copper of the ore, whether as a result of direct leaching of the ore or of re-dissolution of the copper oxide precipitated by evaporation of the solution obtained by leaching the ore, by passing a current of sulphur dioxide into the said ammoniacal solution. (4.) In the process referred to in Claims (1) and (3), deriving the sulphur dioxide from the roasting of the sulphide ores, when these are the ores under treatment. (5.) In a process for extracting copper from its ores wherein the copper in the ore is dissolved in an ammoniacal solution which is then electrolysed either directly or after precipitation and re-dissolution of the copper and reduction of this new solution by sulphur dioxide, conducting the electrolysis in presence of a solution of sulphite as a depolariser at the anode, such solution being the ammoniacal solution reduced with sulphur dioxide, or a solution of basic, neutral, or acid ammonium sulphite. (6.) In the process referred to in Claim (1), recovering the ammonia contained in the solution after the electrolysis, by treating such solution with an alkaline earth, such as lime, or the ore itself, if this is capable of playing the part.

Improvements in or Relating to Apparatus for Concentrating Sulphuric Acid. A. J. Boult, 111 and 112, Hatton Garden, London (communicated by L. Stange, 84, Bismarck Strasse, Aix-la-Chapelle, Germany). British Patent, 91 January 1, 1907.

This invention relates to improvements in apparatus for concentrating sulphuric acid of the type in which the concentration is effected in cast-iron pans by blowing hot air over the surface and by heating the pans. The cast-iron concentrating vessel is provided with means for blowing heated air over the surface of the liquid in the vessel, and with means for heating the outside of the upper vessel. The vessel has a conduit near its lower end, which communicates with a chamber beneath, and means are provided for cooling the chamber for the purpose of preventing incrustations. An inner vessel, having an opening at its lower end, is suspended within the upper part of the containing vessel, and is formed of acid-proof stoneware, the arrangement being such that the dilute acid passes down through the stoneware inner vessel and only when concentrated passes into the space between the inner stoneware vessel and the outer cast-iron vessel. The lower chamber, which is cold and which receives the precipitate from the containing vessel, is provided with a valve-controlled opening for the discharge of the precipitate therefrom. The original specification should be consulted.

Improvements in Process for Treating Ores Containing Zinc Sulphide and Lead Sulphide. J. Thelberg, 45, West 32nd Street, New York, U.S.A. British Patent, 2,789. February 4, 1907.

The inventor claims :—(1.) The process of producing oxide and sulphate of zinc and sulphate of lead, which consists in forcing a superheated mixture of steam and air into a body of ore containing zinc sulphide and lead sulphide in a furnace. (2.) The process of producing a pigment from ores containing zinc sulphide and lead sulphide, which consists in placing a layer of refractory material on the bottom of a furnace, charging the mixture with said ores, then forcing the superheated mixture of steam and air through the refractory material from beneath into the charge in said furnace, which ignites and oxidises the sulphur, zinc and lead, then conveying the formed volatilised oxide and sulphates, together with the gases, out of the furnace, cooling the gases, the volatilised oxide and sulphates to a suitable temperature, and separating the condensed oxide and sulphates from the gases. (3.) In the process claimed in Claim (2), using the product evolved for the production of sulphuric acid, substantially as specified. (4.) The art of producing white pigments from ores containing zinc sulphide and lead sulphide, as specified in Claim (1), which consists in charging a furnace with said ores, adding a quantity of quick lime to the charge of ores, and then forcing a superheated mixture of steam and air into the furnace. (5.) The process of producing a pigment from ores containing zinc sulphide and lead sulphide, according to Claims (2) and (3), wherein a quantity of the cooled and separated gases, consisting mostly of nitrogen and sulphur dioxide, are introduced into the furnace above the oxidation zone, for regulating the temperature in that part of the furnace, as specified.

Two sheets of drawings show the construction of the apparatus.

Process of Continuously Producing Carbide from Lime and Carbon. A. Petersson, Alby, Sweden. British Patent, 5,658. March 8, 1907.

The claims of this specification are :—(1). The process of continuously producing carbide in an electric furnace, which consists in charging carbon and lime separately into the furnace in such a manner that separate upright columns of said materials in close contact with each other are maintained in the furnace, leading an electric current through the column of carbon for heating the same to a point sufficient for forming carbide with the lime, and burning the combustible gases formed during the reaction in the column of lime for preliminary heating the same. (2.) The process of continuously producing carbide in an electric furnace, which consists in charging carbon and lime separately into the furnace in such a manner that separate upright columns of said carbide forming materials in close contact with each other are maintained in the furnace, leading an electric current through the column of carbon for heating the same to a point sufficient for forming carbide with the lime, removing the combustible gases formed during the reaction through the column of lime and introducing air into the said column of lime for burning the said combustible gases for preliminary heating the lime charge.

A sheet of drawings accompanies the specification.

A Process for Manufacturing a Fertiliser from Atmospheric Nitrogen. L. Rot', Cauth, near Breslau, Germany. British Patent 12,74'. June 1 1907.

In this process air is passed through a fixed porous resistance into a moist mixture consisting of clay, iron, lime, sand, and magnesia, to which, during the operation, an ammonia-fixing means, such as sulphate of iron or sulphuric acid, is added.

YORKSHIRE DYEWARE AND CHEMICAL CO., LTD.—The report for the year to June 30 states that during the past year a scheme for the reduction of the capital was placed before the shareholders, and resolutions necessary for carrying this scheme into effect were passed practically unanimously. This scheme, which received the sanction of the Court on May 14, provided for the reduction of the capital by the cancellation of the whole of the 80,000 ordinary shares, all of which were held by the vendors, and the writing down of the 100,000 preference shares by 5s. per share, being a total reduction of £105,000., leaving the present capital, as reduced, at 100,000 shares of 15s. each. This reduction has enabled the directors to write off absolutely the whole of the deficiency on profit and loss account as on July 1, 1906, to cancel the whole of the goodwill, and to considerably reduce the valuation of the buildings, plant and machinery where necessary. The advisory committee, appointed at the meeting of shareholders held in January last, have worked in co-operation with the directors, and have rendered useful services to the company. The directors are quite satisfied with the progress which has been made by the company during the past twelve months, especially in consideration of the fact that it is only during the past four or five months that the beneficial influences of centralisation have commenced to make themselves felt. After providing for depreciation of property, plant and machinery, and all other charges, except directors' remuneration, the trading for the year has resulted in a profit of £12,070. The following payments have to be deducted, viz. : Interest on debenture stock, £4,873. ; directors' salaries and commission, £2,941., leaving a profit on the year's trading of £4,254. The directors recommend that this balance shall be dealt with as under :—Payment of a dividend at the rate of 2½% £1,781. ; transfer to reserve fund, £2,000. ; carry forward to next year, £473.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid	COMPANIES.		Closing Price Wednesday, Sept 11.
120,000	1	1	Bell's Asbestos ...	ord	1¾ 1⅞
	Stock	100	Borax Consol 4½% deb. stock	red	109½
80,000	10	10	Do. ...	pref	11¼
1,356,477	1	1	Bradford Dyers ...	ord.	2 3/7½
1,50 ,000	1	1	Do. ... 5%	c.p	21/-
35,000	10	10	British Dyewood ...	,,	3⅛ 4⅛
600,000	1	1	British Oil & Cake Mills	ord.	12/9
235,000	1	17/-	Broxburn Oil, Ltd. ...	,,	43/-
10,000	10	10	Do. ... 6%	c p	12¼
1,472,154	1	1	Brunner, Mond and Co	ord	5¼ 5⅛
82 678	10	10	Do. 7%	pref	17¼ 17½
96,000	5	5	Bryant and May ...	c.p	12¼ 12⅜
40 000	10	10	Buxton Lime Firms	ord.	6⅛ 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd.	,,	20/6
450,000	1	1	Castner Kellner ...	,,	2 6 2/-
16,000	5	5	Clayton Aniline ...	,,	2¾ 3
12,000	5	5	Do. ... 6%	c.p	3¾ 4
6,000	10	5	Cleveland Salt ... 6%	m p.	2½ 3
20,000	10	10	Crosfield J, and Sons	c p	10 9/16
85,000	1	1	Fletcher, Russell, & Co.	ord	27/3 27 9
5,000	10	10	Do. 6%	c p	11 15/16 12 1/16
£15,223,235	Stock	00	Gas Light and Coke Co.	ord	9 2½
	10	10	India Rubber Co. ...	,,	14½ 15½
	5	5	Lagunas Nitrate ...	,,	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co.	,,	8
	5	5	Lautaro Nitrate ...	,,	11¼ 11¾
200,000	10	10	Lever Bros. ... 5%	c.p.	11 11¼
400,000	10	10	Manchester Ship Canal	ord.	21,6 21/9
400 000	10	10	Do. per 5%	pref.	30/6
120,000	1	1	Mandelberg ...	ord	31/3 31/9
185,145	1	1	Mason and Barry ...	,,	5 8/9
110,007	10	10	Nitrate Railways ...	,,	13½
228,540	10	10	Nobel Dynamite Trust	,,	15⅛
	10	10	Do. share warrants		15½
200,000	1	17/-	Oakbank Oil, Ltd. ...	ord.	38/6
	1		Pears, A. and F. ...	,,	1 7/16 1 9/16
70,000	10	10	Pease and Partners ...	,,	13¾ 14
37.500	16	16	Price's Patent Candle	,,	33
130,000	1	17/-	Pumpherston Oil, Ltd.	,,	12½
10,000	10	10	Do. 6%	c.p.	15¼
325,000	5	5	Rio Tinto	ord.	7 1¼
2,500	7½	7½	Robin and Houston ...	,,	85/-
239 479	1	4/2	Sadler and Co. ...	,,	3/- 3/6
200,000	4	4	Salt Union	,,	18/- 18 6
100,000	6	6	Do. ... 7%	n c.p.	4⅜ 4½
£148,000	1	1	Sanitas Co., Ltd. ...	ord.	1 1⅛
	4	4	San Jorge Nitrate ...	,,	1⅛ 1⅜
	1	1	Schibaieff Petroleum	,,	⅛ ¼
£6,250 000	Stock	00	South Metropolitan Gas	,,	119 121
45,000	10	10	Steiner, F and Co. 5%	c p.	9⅝
625,000	2	2	Tharsis Sulphur & Copper	,,	6⅜ 6⅝
289,313	10	10	United Alkali ...	ord	82/3
282 534	10	10	Do. ... 7%	pref.	11⅜ 11¼
80,000	1	1	United Indigo & Chemical	ord	2 - 2/3
66,666	5	5	Willans and Robinson	,	¼ ⅜
210,000	1	1	Woolcombers ... 7%	c.m.	19 9 20/3
112,202	4	4	Young's Paraffin ...	ord.	74/6

J. MANDELBERG AND CO.—The directors have declared an interim dividend on the ordinary shares at the rate of 10% per annum for the half-year ended June 19 last. The usual interim dividend has hitherto been at the rate of 8% per annum.

CAMPHOR AND RUBBER IN INDIA.—The United Provinces Forest Department are experimenting with the cultivation of the camphor tree in the forest tracts of Siwalah, and lac propagation is being carried out in the same locality, where it is intended to extend its cultivation. The Madras Forest Department are experimenting with Japanese camphor at Vizagapatam, where some of the plants raised are thriving vigorously. The same department is experimenting with rubber, and the following species are under cultivation:—Landolphia Florida, Ceara, Ficus Elastica, Para, Kicksia Africanus, and Dichopsis Elliptica. Cultivation is in progress in North and South Malabar, South Canara, Kistna, the Nilgiris, Coimbatore, and Tinnevelly.

NEW YORK PRICES CURRENT.

AUGUST 27, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8⅝
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7⅛
,, ,, ,, Continental	,,	0 7½
Ammonia, Carbonate, lump	,,	0 7⅝
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds ..	,,	0 9½
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	,,	0 8½
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8½
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

THE RUSSIAN CHEMICAL MARKET.

REPORTS from Odessa show no change in the general situation. There is a better demand for disinfectants in view of the spread of cholera. The prices of all items are firm. Ammonia is quoted 7 roubles 20 copecks to 7r. 35c. per pood of 36 lbs.; crystallised borax, 4r. 75-80c.; white lead, 6r. to 6r. 10c.; zinc, white, 19 to 20r., in casks of 3 poods (about 112 lbs.); sulphate of copper, 6r. 80-95c.; English sal ammoniac, lumps, 8r. 40c.; Caucasian potash, 2r. 50c.; Saratoff ditto, 2r. 70-80c.; caustic soda, 2r. 80c.; calcined soda, 1r. 40c.; Russian tannin, 37r. 50c. to 38r. 50c.; foreign ditto, 41 to 42r.; bichromate of potash, 9r., all per pood.

The fortnightly chemical report from St. Petersburg up to September 3 states that throughout the whole summer nothing particularly notable has occurred on the chemical market there. It has been governed by the state of the foreign markets on the one hand and by the colourless disposition of local trade on the other. Nitric acid, 36° B., is quoted 3 roubles to 3r. 20 copecks; crystallised borax, 4r. 30-70c.; white lead, 5r. to 5r. 15c.; sulphate of copper, 6r. 60-65c.; Saratoff potash, 2r. 65-75c.; Chili saltpetre, 1r. 90c. to 2r.; caustic soda, 2r. 65c.; superphosphate (16-17%), 65-70c.; red lead, 4r. 80c. to 5r.; bichromate of potash, 8r. 40-50c.

The Warsaw market for the same period has been without special feature. Quotations are: Nitric acid, 36° B., 3r. 40c.; borax crystals, 4r. 90c.; white lead, 5r. 80c.; sulphate of copper, 7r. 35-65c.; red lead 5r. 50c.; acetic acid (60%), 5r. 44c.; bichromate of potash, 9r. 75c., all per pood.

LITIGATION IN THE SOAP TRADE.—It is reported that a further action is pending in connection with the recent proposed soap trade combination.

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BABUL GUM, found in Madras forests, is officially used by the Indian Government Stationery Department for office use.

PARTNERSHIPS DISSOLVED.—The *London Gazette* contains the following announcement of dissolutions of partnerships:—Walter James Saville, William Marvel, and Walter Goodwin Saville, drysalters, paint, colour and varnish manufacturers, 94, Great Ancoats-street, Manchester, as Saville, Marvel and Co., and Hambourgh Colour U. Chemische Fabric. Thomas Ingham, Ephraim Thornber, and William Thornber, as Thornber Son and Co., Padiham, manufacturing chemists, as regards T. Ingham.

NEW LANCASHIRE MAGISTRATES.—A list of new names added to the Commission of the Peace for the County Palatine of Lancashire contains the following:—James Bennett Aitken, chemical manufacturer, Penketh-by-Warrington; Max Muspratt, director of the United Alkali Company, Liverpool; John Bryson Orr, chemical manufacturer, Woolton, Liverpool; Austin Townsend Porritt, woollen manufacturer, Stubbins, near Manchester; Robert Pearson Skelton, paper manufacturer, Remsbottom; Joseph Herbert Wild, paper maker, Stand, near Manchester.

REPORTED ATTEMPT "TO CORNER THE WORLD'S SULPHUR."—A New York correspondent of the *Manchester Guardian* says:—"A despatch from New Orleans states that the Rockefeller interests controlling the United States Sulphur Company are preparing to control the world's supply of sulphur and will make New Orleans the greatest brimstone port in the world. Hitherto there has been an arrangement with the Italian producers respecting the distribution of Louisiana sulphur. In consequence shipments to Europe have been small, but the arrangement has now been terminated, and American sulphur is to be heavily exported, particularly to France and Germany. The United States company controls all the American trade, and has largely accumulated stocks, which will be placed on the market in sharp competition with the Italian producers."

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, Aug. 27, 1907.

(Rate of Exchange, $4.87 = £1.)

Nitrate of soda is dull; no sales of consequence have been reported this week. Prices, however, are firm at $2.45 per 100 lbs. Sulphate of ammonia is also rather dull in the local market, but the prices are well maintained in sympathy with nitrate. Grey muriate of ammonia for galvanising is unchanged, at 5¼c. to 6¼c. per lb.; white electrical is rather dull, and is quoted as low as 5¼c. per lb. Lump sal ammoniac, 9¼c. per lb. Lump carbonate of ammonia is rather dull, very little new business being reported, although it is moving nicely on contract at 7¾c. to 7¾c. per lb. Bleaching powders are quoted at $1.30 per 100 lbs. Sulphate of copper is weak, and reductions in prices are expected; it is held at present at 7c. per lb. White powdered arsenic is selling on spot at 7¾c. per lb., while futures may be bought from 7c. to 7¼c. per lb.; a few good sales have been reported. Red Saxony arsenic is selling at prices quoted previously. Calcined carbonate of potash, 80-85%, is in pretty good demand, and prices are well maintained at 3¾c. to 3¾c. Hydrated carbonate of potash is also in fair request, and is selling on spot at 4¾c. Caustic potash, 75%, is moving along rather freely on contract; prices are about the same, that is, 5¾c. per lb. Chlorate of potash and soda remain unchanged; prompt deliveries fetch 9¼c. per lb. Bichromate of potash is in rather good demand, and is selling at 8¼c. to 8¾c. per lb. Bichromate of soda is quoted at 7¼c. to 7¼c. Oxalic acid is rather weak; some sales have been reported at $8.45 spot, and for next year at 6¾c. to 7½c. per lb.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with quotations given at 8¼d. for 90's, and 9d. to 9¼d. for 50-90's. Crude tar, 15s. 6d. to 20s. per ton, Thames; 1¼d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 27s., f.o.b.; Gas Company, 20s.; East Coast, 25s. 6d. to 26s.; West Coast, 24s. to 25s. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10½d. to 11d.; pure, 1s. 3d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d. 60%, 1s. 8¼d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5¾d. 34-35, 5¼d. Cresylic, 95%, 1s. 1d. to 1s. 1¾d. Anthracene 40 to 45 per cent. A, 1½d. to 1⅝d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia: Nearest values are:—Beckton, £12. 1s. 3d.; next years, £12. 2s. 6d.; Beckton terms, £11. 11s. 3d to £11. 12s. 6d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; Leith, £12.; and forward, £12. 5s.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d. Liverpool, ordinary, 11s.; refined, 11s. 1½d. Official quotations—Cargoes, off coast or due, 11s. 1½d.; ditto, for prompt shipment, 11s. 6½d.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £68. to £68. 5s. cash, and £68. 10s. to £68. 15s., three months. Tin: G.M. quality, £166. to £166. 10s. cash, and £165. 5s. to £165. 15s. three months; English, £169. Lead: soft foreign, £20. 5s. prompt, and December £19. 10s.; English £20. 10s. to £20. 15s. Spelter, ordinary brands, £20. 10s. to £20. 15s., ex ship; hard, £17. 10s., f.o.b. Antimony £38. to £40.; ore, £10. 10s. to £11. Bismuth, 6s. 0d. Quicksilver, £7.; seconds, £6. 16s. Nickel, 1s. 10d. per lb.

FERTILISER MATERIALS.

THURSDAY.

Quietness still prevails in all markets, but, notwithstanding this, prices are well maintained.

Raisers of all grades of mineral phosphates being so well sold ahead, and being closely occupied in fulfilling contracts, show little disposition for further business, and any transactions done are at extreme prices.

Nitrate of soda is very quiet, but prices remain steady on spot, at 11s. 1½d. to 11s. 4½d. per cwt., ex store, for ordinary and refined qualities respectively.

East Indian bone meal is neglected, but shippers are firm at £4. 17s. 6d. per ton, nett, c.i.f. terms, Liverpool, 4½ and 52% quality. On spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is asked.

MISCELLANEOUS CHEMICAL MARKET.

FRIDAY.

The demand for sulphate of copper continues quiet, and with further decline in the metal, quotations are again lower. To-day's price is nominally £25. 5s. to £25. 10s., and for spring shipment £24. 10s., f.o.b. Liverpool. Bleaching powder, softwoods, is steady at £4. 7s. 6d. on rails, for spot delivery, and £4. f.o.r. is still quoted for 1908 contracts. Caustic soda and ammonia alkali are unchanged. Chlorates are dull. There are a few forward enquiries for saltcake, and quotations rule at same level as for this year, viz.: 40s., carriage paid. Recovered rock sulphur, £4. 10s., f.o.r. Soda crystals and bicarbonate are without alteration. American brown acetate of lime slow of sale and price easy at £8. 7s. 6d., c.i.f.; grey, £12. 10s. per ton. Acetate of soda quiet, at £16. 15s., ex ship. Lead salts are in fairly good request, but prices have a downward tendency. The price of white powdered arsenic is well maintained at £31. Garston, and business is moderately brisk. Prussiates continue weak, and potash is offered at 5¾d. to 5¾d. Soda, 3¾d. to 3¾d. per lb. Oxalic acid steady at 3¾d. to 3¾d. for spot delivery. Potash, caustic and carbonate, are very scarce for prompt, and prices have further advanced; caustic, 88-90%, to £26. per ton; and carbonate, 90-92%, £19. 10s. to £20. per ton.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes steadily held at 35s. 6d. to 36s. Pearl Ash nominal. Cutch in moderate demand. Gum arabic firm. Logwood and fustic steady. Castor oil quiet, at 3½d. for good seconds Calcutta, 3⅝d. for first pressure French, 3¾d. for second pressure French, and 3¾d. per lb. for Calcutta shipment on to January next. Gambier: Block, 18s. 0d. to 19s. on spot; 18s. to 18s. 1½d. for June-July; 17s. 10½d. for July-August; and 18s. for August-September shipments. Cubes, 28s. 6d. to 29s. on spot, and 27s. 9d. for August-September

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Shellac steady, at 170s. to 175s. for fair T.N. orange on spot. American powdered starch, 10s. 6d. on spot, and 10s. c.i.f., for shipment; pearl, 10s. on spot, and 9s. 6d. c.i.f., for shipment. Glucose: American liquid, 43°/₀, 12s. on spot, and 9s. 9d. c.i.f., for shipment. Cream of tartar, 98°/₀ foreign powder, 80s. 6d. to 81s.; 95°/₀, 79s. Tartaric acid, English, 11½d. on spot; foreign, 10⅝d. to 11d. Citric acid: English, 1s. 10½d. on spot; foreign, 1s. 10¼d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil quiet, with Benin quoted at £27. 7s. 6d. per ton; hard oils, £26. 17s. 6d.; soft oils, £27. 12s. 6d. Cottonseed oil steady, at 29s. 6d. to 31s. per cwt. for Liverpool refined in export barrels. Linsed oil firm, at 25s. 3d. to 25s. 6d. for Liverpool makes in export casks. Tallow quiet at 33s. 6d. to 33s. 3d. per cwt. c.i.f., for South American beef. Rosin quiet. Turpentine steady at 30s. 9d. per cwt. on spot. Petroleum quiet at 0½d. for Russian and Roumanian, and 7d. to 8d. for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 10s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—Linseed oil has continued a firm and dearer market, having advanced during the week from 10s. to 15s. per ton. Refined cotton oil has been slack and reduced in value by about the same amount. Evidently the soap makers do not anticipate much rise in the price of materials, or they would hardly reduce prices of soap, although naturally prices will come lower when the new seed comes upon the market in October. Amongst the principal imports here to date, as against the same period a year ago, are:—Wheat 2,848,205 qrs., against 2,805,637 qrs.; flour 150,477 cwts., against 259,810 cwts.; linseed 501,481 qrs., against 308,780 qrs.; rapeseed 71,157 qrs., against 60,929 qrs.; cottonseed, Egyptian, 127,908 tons, against 111,443 tons; other kinds 127,908 tons, against 102,219 tons; oilcake 18,167 tons, against 29,012 tons; hemp 93,237 cwts., against 117,110 cwts.; olive oil 3,490 tuns, against 2,951 tuns; tar 6,073 brls., against 8,960 brls. Amongst the weekly imports are 20,627 qrs. linseed, 4,214 qrs. rapeseed, 3,174 tons cottonseed, 4,564 cwts. margarine, 22,209 cwts. sugar, 169 tons oilcake, 2,914 pkgs. colours, 1,648 cwts. hides, 84,208 lbs. wool. Exports: Oil 10,016 cwts., colours 2,987 pkgs. chemicals 2,219 pkgs. Linseed oil firm, naked spot 22s. 10½d. to 23s.; September-December, 22s. 9d. to 22s. 10½d.; January-April, 23s. 3d. paid; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week: 2 tons America, 11 Germany, 4 Norway, total 17 tons. For linseed the market has been dearer, La Plata spot, 43s. 6d.; September-October sold at 44s. 3d.; December-January, 42s. 3d.; January-February, 42s. Refined cotton oil, 26s. 6d. spot naked; September-October, 20s. to 20s. 3d.; November-April, 23s. 3d.; casks £. and barrels £1. 7s. 6d. per ton extra. Exports during the week: 57 tons Germany, 14 Holland, 1 Norway, 4 Sweden, total 76 tons. Cottonseed steady on passage and spot £8. buyers, October sold at £7. 6s. 3d.; November-January, £7. 1s. 3d.; January sold at £7. 2s. 6d. Bombay, September-October, £5. 18s. Turpentine lower, spot 30s. 6d.; October-December, 40s. 1½d.; January-April, 41s. 9d. Rosins unchanged from 10s. 9d. Olive oil, Levant, from £40. to £42. per tun. Cakes: linseed cakes, improving demand makes a firmer market, being generally 5s. per ton higher; cotton cakes quite unchanged; rape cakes none.

TYNE CHEMICAL REPORT.

THURSDAY.

The chemical market continues steady with a fair demand, caustic soda, 70°/₀, £9. 15s.; and 76-77°/₀, £10. 10s. per ton. Bleaching powder quiet, at £4. 15s. to £5. 5s. per ton. Soda crystals locally firm, at £2. 17s. 6d. to £3. 2s. 6d. per ton gross weights. Sulphur steady at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77°/₀, £10. 10s. per ton, nett; do., 70°/₀, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30°/₀, £4. 17s. 6d. per ton, nett; do., 36°/₀, £5. 2s. 6d. per ton, nett; do., 40°/₀, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62°/₀, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 50-60°/₀, £13. per ton, nett; do., crystals, 45-48°/₀, £12. per ton, nett; strontium hydrate crystals, 90-95°/₀, £8. 10s. per ton, nett; do., carbonate, 90-95°/₀, £10. 15s. per ton, nett.

COALS.—Market continues very steady, with a good demand for all best quality coals. For current shipment, prices are:—Best Northumbrian steam coals, 16s. to 16s. 3d. per ton; second quality, 15s. to 15s. 3d. per ton; small steam coals, 10s. to 11s. per ton; best gas coals, 15s. 6d. to 16s. per ton; Durham bunkers, 14s. to 14s. 6d. per ton; coking coals, 14s. 6d.; household coals, 16s. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The Scottish calico printers are very quiet, and therefore making but small calls for supplies of the colour chemicals used. Printing orders would come through in a fair enough volume, but the deterrent is the dearth of sufficiently cheap cotton. The dyeworks of the country are also on the quiet side, partly from the same cause. Although there is no great movement in drysalteries, late price figures are well maintained, and this is the case also with most of the chemicals, sulphate of copper being the only prominent exception. The heavy chemicals are in fair demand, with recent figures unaltered, although the further advance in fuel causes makers to turn their thoughts to a rise. Sulphate of ammonia continues steadier than is its wont, and the position to-day is about the same as during the past three weeks. Mineral oils and paraffins are all unchanged and healthy of movement. The makers are now about fully contracted forward in burning oil.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½°/₀ for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½°/₀ for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½°/₀ any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £26. 17s. 6d., to £26., less 5°/₀ Liverpool, prompt.

New Companies.

Bovey Lignite Co., Ltd.—Capital £900., in 800 ordinary shares of £1. each, and 800 deferred shares of 2s. 6d. each. This company has been formed to acquire lands, mines, quarries, etc., in Devon or elsewhere, and to win, manipulate and prepare for market lignite, clay, ores, metals and minerals. No initial public issue. The first directors are R. B. Phillpotts, M. M. Olsson and R. J. Woods; qualification £100.

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Earogen Ltd.—Capital £35,000, in £1 shares. This company has been formed to acquire certain patents and patent rights relating to the generation of steam and other fluid pressure for motive power, and to apparatus therefor, and to carry on the business of manufacturers of and dealers in chemical and other substances, liquids and apparatus, etc. No initial public issue. The first directors are E. M. Touzeau, A. C. Jarvis and G. G. Belcher; qualification (except first directors) £100.; remuneration (except managing director) £50. each per annum (£25. extra for chairman) and 5% of the surplus profits available for distribution after providing for 10% dividend and for any reserve or suspense fund, divided.

Conrad Wm. Schmidt (F. A. Glaeser), Ltd.—Capital £100,000., in £1. shares (60,000 5% cumulative preference and 40,000 ordinary). This company has been formed to acquire the business carried on at Stratford by F. A. Glaeser and Heinrich Schmidt (as administrator of the estate of the late Conrad Wm. Schmidt (F. A. Glaeser), and to carry on the business of varnish, japan, enamel, colour, oil and dye manufacturers and dealers, etc. No initial public issue. There are to be 10,000 "management shares," which shall not be of any denomination, and shall not entitle the holders to any interest in the capital of the company, nor confer any right to attend or vote at general meetings. These shares are to be distributed among such of the employes as the directors think fit, but no money consideration is to be taken for the same. Each such share, whilst held by any employe, is to rank for dividend as though it were a fully paid £1. ordinary share. The first directors are F. A. Glaeser and H. Schmidt (both permanent); qualification £500. ordinary shares or stock; remuneration of any director not holding any office of profit under the company, £250. per annum. F. A. Glaeser is managing director.

J. B. Jenkins and Co., Ltd.—Capital £7,500. in 250 5% cumulative preference shares of £10. each, and 5,000 ordinary shares of £1. each. This company has been formed to take over the business of silica brick manufacturers, carried on at Neath as J. B. Jenkins and Co. Minimum cash subscription £3,000. The first directors are I. Butler, J. John and L. Jenkins; qualification £250.; remuneration as fixed by the company.

Kali Selogiri Syndicate, Ltd.—Capital £25,000., in £1. shares. This company has been formed to adopt an agreement with R. C. Wright and L. A. van den Bergh van Heinenoord (vendors), to cultivate and exploit the Kali Selogiri Estate in Java, and to carry on the business of planters of india-rubber, gutta percha, balata and other gums, coffee, tea, cocoa and other produce, etc. Minimum cash subscription 10,000 shares. Purchase consideration £14,250 (£4,000 shares and balance cash). The first directors are R. C. Wright, W. Taylor and H. de Courcy Hamilton; remuneration £50. per annum, divided. Registered office, Leadenhall House, 101, Leadenhall-street, E.C.

Pavitt and Co., Ltd. Capital £2,000., in £1. shares (1,000 preference and 1,000 deferred). This company has been formed to carry on the business of candle, perfume and soap manufacturers and merchants, stationers, chemists, etc. No initial public issue. The first directors are A. V. Cowell (chairman) and G. P. Marshall, and not more than two others to be appointed by them within six months; qualification 100 shares.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Chys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.					lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rolls.	Rimots.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tes.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending August 31.

Acetic Acid—

Holland,	12 dns.	H. Lorenz
,,	25 b ns.	W. D.
,,	9 pks.	Muller & Co.
Norway,	25 cks.	Juett & Coin
Holland,	47 pks.	Little & Johnston

Acetylactic Acid —

Germany,	£201	L. & I. D. Jt. Co.

Acetone—

Germany,	£246	Litchfield & Soundy

Albumen—

Portugal,	£13	F. Horne & Co.

Alcohol (Methylic)—

Canada,	4,000 gals.	F. A. Tye
U.S.A.,	10,000	G. H. Brown

Alum—

France,	1 cs.	Mory & Co.

Aluminium Sulphate—

Holland,	£22	Ohlsenschlager Bros.

Ammonium Fluoride—

Germany,	£90	Petri Bros.

Ammonium Muriate—

Holland,	£28	H. Lorenz

Amyl Acetate—

Belgium,	£30	Reitmeyer & Co.

Antimony Ore —

Canada,	38 t.	Furness, Withy & Co.

Antimony Sulphide —

Germany,	£30	L. & I. D. Jt. Co.

Argols—

France,	8 bgs.	G. S. N. Co.

Arsenic —

Portugal,	£320	G. S. N. Co.
Victoria,	1,295	Leach & Co.
France,	110	W. J. Owen
,,	310	W. & S. Boreditch

Asbestos —

Canada,	29 t. 10 c.	Deering & Robottom
Germany,	6	Lunham & Moore
,,	1 4 c.	Craven & Co.
,,	1 6	,,

Barytes —

Belgium,	195 cks.	Felton
,,	129 bgs.	& Crepin
,,	250	G. Farmiloe & Son
,,	16 cks.	B. & F. Wf. Co.
Holland,	10	Felton & Crepin
,,	300 bgs.	,,
,,	9 cks.	T. H. Lee
,,	22	J. Cartwright & Co.
,,	57	Thames S. T. & L. Co.
,,	22	W. Harrison & Co.
,,	200 bgs.	Burrell & Co.
Germany,	100	W. H. Harrison & Co.
,,	15 cks.	London & Rhine S. Office
Italy,	30 bgs.	J. Knill & Co.

Bleaching Powder —

Germany,	3 t.	J. M. Steel & Co.
Holland,	40	N. R. Collyer

Bone Meal —

E. Indies,	200 t.	Hunter, Lomer & Co.

Boracic Acid —

Italy,	10 cs.	W. J. Serevene

Calcium Carbide —

Norway,	70 t.	Imperial Autom. L. Co.
,,	5	L. Walford & Co.

Camphor —

Germany,	£939	W. H. Smith & Son

Caoutchouc —

Straits,	3 t.	13 c.	Props. Bull Wf.
,,	2	11	Weber, Smith & Hoare
,,	14	17	E. Bousstead & Co.
,,	1	17	Butler's Wf.
,,	5	2	Prop. Hay's Wf.
,,		6	Lawrence, Bousstead & Co.
,,		15	Shand, Haldane & Co.
,,		15	Dickson & Co.
Ceylon,		4	Bremen & Laycock
,,		8	Props. Bull Wf.
,,		1	W. H. Tindall & Co.
,,	2	12	L. & I. D. Jt. Co.
,,		2	Weber, Smith & Hoare
,,		2	P. & O. S. N. Co.
,,		14	Hoare, Wilson & Co.
France,	1		Lawrence, Bousstead & Co.
,,		5	Clark & Smith
,,		7	L. & I. D. Jt. Co.
Belgium,		7	B. & F. Wf. Co.
Holland,	1	15	L. & I. D. Jt. Co.
,,	2	Props. Bull Wf.	
,,		1	S. Figgis & Co.
E. Indies,		5	Prop. Hay's Wf.
,,		7	J. W. Cook
,,	2	1	W. H. Smith & Sons
Germany,		13 c.	Prop. Hay's Wf.
,,	2 t.	12	Baxter, Hoare & Co.
,,		1	Hale & Son
,,		1	Dalton & Young
,,	1	12	Clarke & Smith
,,		1	Major & Field

Carbon Black —

U.S.A.,	100 brls.	M. Ashby
,,	50 cs.	,,
,,	200 100	Binney & Smith

Castor Oil —

E. Indies,	15 cks.	Cayzer, Irvine & Co.
Italy,	10 cs.	G. S. N. Co.
,,	8 cks.	Nicholson's Wks.

Caustic Potash —

Germany,	30 dms.	J. N. Steel & Co.
Belgium,	24	G. W. Sheldon & Co.
Sweden,	42	G. H. Clippingdale

Chalk (French) —

France,	£7	Symons & Co.
Holland,	50	Maritime Ltge. Co.

Chemicals (*otherwise undescribed*)

Germany,	£20	Prop. Hay's Wf.
,,	33	T. H. Lee
,,	23	Argo S.S. Co.
,,	8	Ldn. & Rhine S. Office
,,	352	A. & M. Zimmermann
,,	11	L. & I. D. Jt. Co.
,,	12	M. D. & Co.
Holland,	10	T. H. Lee
,,	15	Hughes Chem. Co.
,,	35	R. W. Greeff & Co.
,,	6	A. & M. Zimmermann

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Chemicals (*otherwise undescribed*)

Holland,	£9	W. H. Muller & Co.
Belgium,	13	P. Heydemann
,,	12	Leach & Co.
,,	38	J. Cockerill Line
France,	27	Mory & Co.
,,	20	Bennett S.S. Co.
U.S.A.,	700	R. W. Greeff & Co.
,,	20	Taylor Bros.
,,	17	Mary Roberts & Co.

Citric Acid—

France,	28 kgs.	B. & F. Wf. Co.
Holland,	5	Kirkpatrick,
,,	4 cks.	Barr & Co.

Coal Products—

Aniline

Germany,	6 cs.	L. & I. D. Jt. Co.
,,	3 cks.	Leach & Co.
Belgium,	30 pks.	J. Cockerill Line

Carbolic Acid

Holland,	50 cks.	J. Owen

Pitch

N. Russia,	800 cks.	Gronsund & Co.

Tar

N. Russia,	50 brls.	Mordaunt Bros.
,,	32	Fieslander Bros. & Co.
,,	2,109 brls.	Gronsund & Co.

Copper Ashes—

N. Russia,	25 t.	J. D. Hewett & Co.

Copper Ore—

W. Aust.,	4 t.	G. Smith & Son

Cream of Tartar—

France,	8 cks.	T. M. Fairclough & Sons
Holland,	12	A. Baker
,,	43	S. White
France,	20 kgs.	B. & F. Wf. Co.
,,	2 pks.	Warner
,,	12 kgs.	& Co.
Holland,	40	Kirkpatrick,
,,	4 cs.	Barr & Co.
,,	8 cks.	J. Barber & Co.

Dextrine—

Germany,	10 t.	M. Dk. & Co.
Holland,	3	J. Barber & Co.

Disinfectant—

France,	£32	Mory & Co.

Dyestuffs—

Cochineal

Canary Is.,	30 bgs.	L. & I. D. Jt. Co.

Indigo

E. Indies,	22 chts.	L. & I. D. Jt. Co.
,,	4	Greble Hovdret
,,	5	Hands & Angel
,,	14	Arbuthnot, Latham & Co.

Myrabolans

E. Indies,	422 bgs.	T. Claydon & Co.
,,	1,058	E. J. Winser & Co.
,,	2,000 pkts.	S. Barrow & Co.
,,	1,043 pks.	France,
,,	1,320 bgs.	Fenwick & Co.

Quebracho

Arg. Rep.,	490 logs	Humphrey, Ellis & Co.

Sumac

Italy,	450 bgs.	J. Kitchin, Ld.
E. Indies,	200	Union Ltge. Co.

Turmeric

E. Indies,	100 bgs.	Butler's Wf.

Tanners' Extract

Aust. Hung.,	52 brls.	Boutcher, Mortimer & Co.

Tanners' Bark

Natal,	9 t.	Bullard, Ring & Co.
N.S.W.,	100	R. W. Swonnel
Victoria,	10	Lowe Hurley.
,,	29	Boutcher, Mortimer & Co.

Dyestuffs—

Tanners' Bark

Natal,	30	J. T. Rennie, Son & Co.
Victoria,	40	France, Fenwick, & Co.

Tannin

Belgium,	10 cks.	Leach & Co.
France,	50 brls.	H. Johnson, Son & Co.

Farina—

Holland,	16 t.	10 c. J. Barber & Co.
,,	6	Van Dam & Co.
,,	30	Bennett's H. W. & W. Co

Gelatine—

Holland,	£6	W. H. Muller & Co.
Germany,	156	L. & I. D. Jt. Co.

Glanz Gold—

Belgium,	£170	J. Cockerill Line

Glue—

Norway,	£50	W. J. Davis & Son
Holland,	10	Van Dam & Co.
France,	8	Mory & Co.
,,	19	G. T. Symons & Co.
Holland,	10	T. H. Lee
,,	96	Hernu, Peron & Co.
Belgium,	360	T. M. Duche & Son
Germany,	13	Ldn. & Rhine S. Office
Aust. Hung.,	300	L. & I. D. Jt. Co.
France,	48	T. M. Duche & Son
Italy,	161	W. J. Scrivener
France,	80	L. & I. D. Jt. Co.
Germany,	5	Argo S.S. Co.
A. Hung.,	135	Brockter & Bevington

Glue Stock—

E. Indies,	20 t.	14 c. Cayzer, Irvine & Co.
Germany,	10	10 Elkan & Co.
Italy,	4	12 A. Lambert
Aust. Hung.,	2	10 Beresford & Co.

Glycerine—

Germany,	£76	J. Barber & Co.
,,	38	Prop. Hay's Wf.
Holland,	38	W. H. Muller & Co.

Gutta Percha—

France,	3 c.	J. Johnson & Son
Holland,	3	J. Barber & Co.

Linseed Oil—

Holland,	28 cks.	Randall Bros.
Belgium,	36 dms.	P. H. Palmer

Lithopone—

Germany,	39 cks.	Elkan & Co.
Belgium,	40	J. L. Lyon & Co.
,,	30	J. F. Lauderdale
Germany,	44	J. L. Lyon & Co.
Holland,	12	W. Ostermann & Co.
,,	12	Felton & Crepin
,,	8	F. T. H. Nye
,,	8	W. H. Muller & Co.

Magnesia—

Germany,	£60	L. & I. D. Jt. Co.

Magnesite—

Holland,	£11	Barr, Henry & Co.

Manganese Ore—

Germany,	2 t.	A. H. Gilbert & Co.

Mineral White—

Aust. Hung.,	£20	Harrison & Co.
Italy,	85	Thompson, McKay & Co.

Olive Oil—

France,	239 gals.	L. & I. D. J. Co.
,,	40	Wright, Keir & Co.
,,	22 t.	F. Boehm
,,	2 122	Cole & Carey
Italy,	2 43	White Bros.
France,	210	P. Winter & Co.
,,	60	Hernu, Peron & Co.
Italy,	1 126	Nicholson's Wys.
,,	2 63	L. & I. D. Jt. Co.
,,	1	G. Restuccia
,,	2 28	E. Lloyd

Olive Oil—

France,	146 g.	Gill & Duffus
,,	2 t. 1 296	L. & I. D. Jt. Co.
,,	12	B. & F. Wf. Co.
,,	40	R. Ansell
,,	12	B. & F. Wf. Co.
,,	52	T. Trapp & Son
Italy,	48	Tennant & Co.
,,	126	Barnes & Co.
,,	1	Tennant's Wf.
,,	1	Barnes & Co.
,,	50	Crosse & Blackwell

Paraffin Scale—

France,	30 cks.	Watt & Son
U.S.A.,	14 t. 10 c.	D. Campbell & Co.
,,	95 19	Anglo-American Oil Co.
,,	22 10	H. Hill & Sons

Paraffin Wax—

Holland,	5 t. 4 c.	Phillipps & Graves
Germany,	2	T. H. Lee
U.S.A.,	12 12	Union Ltge. Co.

Phosphate of Lime—

Ocean Is.,	1,530 t.	Anglo-Cont. Guano Wks.
Holland,	295	,,

Plumbago—

Ceylon,	35 brls.	Broanell & Co.
Japan,	225 cs.	Hall & Co.
Italy,	1,000 bgs.	Thredder, Son & Co.
Ceylon,	172	Marshall
	198 brls.	& French
Germany,	6 cks.	Craven & Co.
,,	3	Argo S.S. Co.
,,	2	Barr & Co.
,,	40	Thredder, Son & Co.
Ceylon,	98 brls.	G. R. Hall
	580 bgs.	& Co.
,,	280 brls.	Thredder, Son & Co.

Potassium Bicarbonate—

Holland,	14 cks.	A. & M. Zimmermann

Potassium Carbonate—

Germany,	10 cks.	Petri Bros.

Potassium Chlorate—

France,	104 cks.	O. Murray & Co.
Holland,	22	Europ. Gen. Ex. Co.

Potassium Muriate—

Germany,	500 bgs.	Bessler, Waechter & Co.
Holland,	£66	A. & M. Zimmermann

Potassium Cyanide—

Germany,	£264	Pickfords, Ld.
,,	£33	Argo S.S. Co.
,,	24	L. & I. D. Jt. Co.

Potassium Permanganate—

Germany,	40 kgs.	R. W. Greeff & Co.
,,	100 cks.	H. Lorenz

Potassium Prussiate—

Holland,	2 cks.	G. & S. N. Co.
,,	8	J. Owen

Red Lead—

Holland,	85 cks.	F. T. H. Nye
,,	75	Felton & Crepin
Belgium,	27	J. L. Lyon & Co.
Germany,	3	Typke & King
Holland,	4	Van Dam & Co.
,,	19	W. H. Muller & Co.

Ripolin—

Holland,	75 pks. 10 brls. 12 dms.	Phillipps & Graves

Rosin—

France,	150 cks.	Rosin & Turp Impt. Co.
Spain,	64	Vokins & Co.
U.S.A.,	650 brls.	Rosin & Turp. Impt. Co.

Salammoniac—

Holland,	£30	T. H. Lee

Salicylic Acid—

Germany,	22 kgs.	T. H. Lee

Saltpetre—

Germany,	35 t.	3 c. P. Hecker & Co.

Silver Nitrate—

Germany,	£400	T. H. Lee

Soap—

France,	£63	B. & F. Wf. Co.
,,	58	Mory & Co.
U.S.A.,	516	Merton & Co.
,,	560	Lunham & Moore
,,	146	T. L. Field & Co.
,,	120	Am. Exp. Co.
,,	440	May, Roberts & Co.
,,	330	W. Davis
,,	16	W. H. Muller & Co.
,,	20	Field & Co.
France,	38	Beresford & Co.
,,	10	Nicholson's Wys.
U.S.A.,	260	Staveley & Co.
Holland,	7	W. H. Muller & Co.
,,	19	T. H. Lee
,,	35	Hernu, Peron & Co.

Soap Powder—

Germany,	£421	Ldn. & Rhine S. Co.

Soda—

Holland,	5 t.	R. W. Greeff & Co.
Germany,	5	J. M. Steel & Co.
,,		4 c. T. H. Lee
,,		3 L. & I. D. Jt. Co.
,,		3 A. & M. Zimmermann
Holland,	4	15 T. H. Lee
Belgium,		1 J. Cockerill Line

Soda Crystals—

Belgium,	1 t.	J. Harrison
Holland,	20	P. Windmuller & Co.

Sodium Acetate—

Belgium,	10 t.	B. Biggs & Co.

Starch—

France,		8 c. F. Walker
,,		2 W. Chaplin
,,		5 E. & T. Pink
,,		11 A. C. Hitchcock
Aust. Hung.,	7 t.	6 G. N. Sheldon
U.S.A.,	25	Bennett's Haulage Co.
,,	12	10 W. Grose & Co.
Belgium,	3	9 A. Gardner
,,	1	5 Leach & Co.
,,	1	15 Page, Son & East
,,	2	G. W. Sheldon
Holland,	17	10 Little & Johnston
,,	8	10 J. Barber & Co.
,,	10	10 W. H. Muller & Co.

Sulphur—

Italy,	250 t.	T. Swan
,,	5	A. E. Piggott
,,	3	C. Corry & Co.
,,	19	10 F. C. Devon & Co.
,,	39	5 Vokins & Co.
,,	10	5 Hunwicke, Hadby

Sulphur Chloride—

Holland,	41 cks.	J. M. Steel & Co.

Sulphuric Acid—

Belgium,	200 t.	Anglo-Cont. Guano Wks.

Talc—

Italy,	£40	G. F. Gerhardt

Tallow—

Germany,	2 cks.	Craven & Co.
,,	8	Suter, Hartmann & Co.
Victoria,	4	Seville & Co.
,,	9 pks.	,, ,,
,,	12 cks.	Hill & Sons
,,	265	Goad, Rigg & Co.
,,	9	,, ,,
U.S.A.,	269	Thornett & Fehr
S. Aust.,	182 pks.	,, ,,
,,	60 cks.	Hill & Sons

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Tallow—
N.S.W., 12 cks. L. & I. D. Jt. Co.
,, 441 Lucas & Spencer's
,, 619 Bessler, Waechter & Co.
,, 570 Henderson, Craig & Co.
,, 143 J. Greig
,, 49 Mordaunt Bros.
,, 35 Morrison & Co.
,, 514 Phillipps & Graves
,, 110 France, Fenwick & Co.
,, 80 Yuill & Co.
,, 48 Thornett & Fehr
,, 60 Colchesters & Woolner
,, 101 Concordia Wf.
,, 10 Anning & Cobb
,, 156 R. S. Swannell
N. Zealand, 17 Weber, Smith & Hoare
,, 162 Phillipps & Graves
,, 58 Borthwick & Son
,, 206 Humphery & Co.
,, 54 Morrison & Co.
,, 40 N.Z., L. & N.A. Co.
,, 61 Thornett & Fehr
,, 63 France, Fenwick & Co.
,, 70 Yuill & Co.
,, 73 Anning & Cobb
,, 5 Sanderson, Murray & Co.
,, 76 Nat. Bk. of N.Z.
,, 40 Bk. of N.Z.
,, 4 L. & I. D. Jt. Co.
,, 63 Goad, Rigg & Co.
,, 5 Knight Bros.
,, 107 Flack, Chandler & Co.
,, 24 B. & F. Wf. Co.
Arg. Rep., 111 Colchester & Woolner
,, 799 Phillipps & Graves
,, 728 Bessler, Waechter & Co.
,, 669 J. Owen
Holland, 26 bls. Muller & Co
,, a qty. Crompo Co.
Queensland, 14 cks. J. Greig
,, 62 France, Fenwick & Co.
,, 60 Prod. Brokers Co. Ltd.
,, 18 cs. Pickfords, Ld.

Tartar—
Italy, £586 J. W. Cook & Co.
,, 265 Thames S. T. & L. Co.

Tartaric Acid—
Italy, 5 kgs. B. & F. Wf. Co.
Holland, 2 cks. ,,
,, 14 Kirkpatrick, Barr & Co.

Thorium Nitrate—
Germany, £410 T. H. Lee

Turpentine—
U.S.A., 612 t. 1 c. London Oil Stge. Co.
N. Russia, 332 brls. ,,
France, 104 H. Bertram & Co.
,, 100 J. Watt & Son

Ultramarine—
Holland, 5 cs. Robinson, Roberts & Co.
,, 3 cks. W. Harrison & Co.
,, 3 A. Foley & Co.
Belgium, 14 Leach & Co.
Holland, 4 L. Berger & Sons
,, 1 W. H. Muller & Co.
Belgium, 14 Zettergist, Harvey
,, 4 J. Harrison
Germany, 3 Argo S.S. Co.
,, 10 cs. ,,

Wax—
Aden, 7 bgs. Cayzer, Irvine & Co.
Holland, 24 Muller & Co.
Germany, 14 pks. Weber, Smith & Hoare
,, 145 1 cs. T. H. Lee
,, 110 bgs. ,,
,, 2 L. & I. D. Jt. Co.
,, 1 Cook & Co.
,, 4 bgs. Major & Field

Wax—
B. W. Ind., 11 pks. De Pass & Co.
,, 2 cks. Weber, Smith & Hoare
U.S.A., 50 brls. Lunham & Moore
S. Aust., 2 bgs. Blyth, Green & Co.
E. Indies, 5 cs. Litchfield & Soundy
Italy, 5 bgs. Windschuegl & Co.

White Lead—
Belgium, 46 cks. J. L. Lyon & Co.
,, 75 T. & W. Farmiloe
Holland, 14 W. H. Muller & Co.
Germany, 41 Rose & Co.
,, 6 Argo S.S. Co.
Belgium, 28 J. L. Lyon & Co.
U.S.A., 50 bdls. Perkins
,, 46 cks. & Homer

Vanillin—
Germany, £310 L. & I. D. Jt. Co.

Zinc Ashes—
E. Indies, 32 t. A. Cartledge

Zinc Oxide—
U.S.A., 600 M. Ashby, Ld.
Holland, 20 M. Ashby, Ld.
,, 100 cks. Litchfield & Soundy
,, 200

Zinc White—
Holland, 10 cs. Phillipps & Graves
Germany, 25 cks. J. Barber & Co.
,, 25 Perkins & Homer
Holland, 5 W. H. Muller & Co.

LIVERPOOL.

Week ending August 29

Acetate of Lime —
Montreal, 863 bgs.

Acid *(otherwise undescribed)* **—**
Rotterdam, 1 ck.

Aluminium—
Havre, 63 bgs. Cunard S.S. Co.

Ammonia—
Hamburg, 12 cylds.

Antimony Ore—
Mollendo, 27 bgs. Hainsworth, Watson & Co.
A'fagasta, 250 Aramayo & Co.
,, 403 J. L. Barber & Co.
,, 39 sks. Gunston, Sons & Co.
,, 150 Widenmann, Broicher
,, 204

Barium Sulphate—
Antwerp, 71 cks.

Barytes—
Rotterdam, 362 pks.

Bones—
B. Ayres, 1,221 bgs.
Alexandria, 640

Borax—
A'fagasta, 7,219 bgs. Borax Consolidated Co.
,, 743

Caoutchouc—
Hamburg, 73 bgs.
Havre, 14 Cunard S.S. Co.

Casein—
B. Ayres, 511 bgs.

Castor Oil—
Leghorn, 45 cs.

Chemicals *(otherwise undescribed)*
Rotterdam, 3 pks.
Bordeaux, 25 cks.

Colours—
Rotterdam, 28 pks.
Hamburg, 2

Copper Ore—
Lisbon, 100 t.
Iquique, 4,331 bgs. Mitrovich Bros.
Chanaral, 9 A. Gibbs & Sons
Caldera, 2,236 Bk. Anglo South America

Copper Ore—
A'fagasta, 7 sks. Gunston, Sons & Co.

Cottonseed Oil—
New York, 10 brls.

Cream of Tartar—
Bordeaux, 38 cks.
Marseilles, 7 brls.

Dextrine —
Amsterdam, 10 bgs.

Dyestuffs—
Chestnut Extract
Leghorn, 300 brls.
Marseilles, 200
Dyewood Extract
New York, 60 brls.
Quebracho Extract
B. Ayres, 4,000 bgs.
Tannin Extract
Bayonne, 260 cks. R. J. Francis & Co.
Bordeaux, 484
,, 620 ,,

Farina—
Stettin, 10 bgs.

Glue—
Bordeaux, 29 pks.

Glycerine—
Palermo, 280 brls. S. A. Cosulich

Lactic Acid—
Rotterdam, 18 cks.

Linseed Oil—
Rotterdam, 3 cs.

Magnesite—
Rotterdam, 63 bgs. 24 cks.

Magnesium Sulphate—
Hamburg, 200 bgs.

Manganese—
Batoum, 133 t.

Manganese Ore—
New York, 90 cks.
Poti, 1,500 t.

Mineral White—
Bordeaux, 1,700 sks. 100 bgs.

Olive Oil—
Bordeaux, 119 cs.
Barcelona, 1 Stevan, Bros. & Co.
Genoa, 1 ck. T. Falice
Marseilles, 390
Palermo, 137 50 bxs. S. A. Cosulich
,, 10

Oxalic Acid—
Rotterdam, 3 cks.

Paraffin Wax—
Amsterdam, 63 bgs.

Phosphorus—
Montreal, 135 cs.

Potash—
Portland, 19 brls. Isham & Isham

Potassium Sulphate—
Hamburg, 400 bgs.

Pyrites (Iron)—
Huelva, 1,740 t.

Red Lead—
Rotterdam, 17 cks.

Rosin —
Bayonne, 13 cks. R. J. Francis & Co.
Lisbon, 90 brls. R. Sevita & Co.
,, 55

Rubber—
Warri, 14 cks. J. Holt & Co.
Saltpond, 2 Russell & Co.
G. Bassam, 2 Oliver & Co.
Gd. Lahou, 4 Cie Fr. de Kong
,, 9 R. & W. King
Sierra Leone, 1 Pickering & Berthoud
,, 2
,, 3 pks. Williams & Co.
Dakar, 2 cks. Cie Francaise de Kong
Burutu, 24 C. G. Bennett
,, 3 Melver & Co.
Lagos, 4 Paterson, Zochonis & Co.
,, 1 Melver & Co.
,, 1 J. Holt & Co.
Cape Coast, 5 cks.

Rubber—
Acera, 2 pks. J. P. Werner
Bahia, 92 bls.
Sekondi, 5 Millers, Ld.
,, 1 Russell & Co.
,, 1 ck. Fischer & Co.
Parahyba, 36 pks.
New York, 17 Leech, Harrison & F.
Pernambuco, 4 bgs.
Singapore, 41 cs.
Bordeaux, 4 cks.
A'fagasta, 156 bdls. F. Huth & Co.
Boston, 21 Downing & Co.
Mollendo, 57 bls. Schroeder & Co.
Antwerp, 36 bgs.
Manaos, 520
Para, 526

Salt (Waste)—
Hamburg, 200 t. 2,399 bgs. 134 cks.

Silver Ore—
A'fagasta, 250 bgs. Aramayo & Co.
,, 16 sks. Gunstan, Sons & Co.
Mollendo, 240 Graham, Rowe & Co.

Soap—
New York, 6 brls. Wheatley & Co.
,, 50 bxs. B. F. Babbitt
Leghorn, 320 cs.
New Orleans, 1,014 brls.
Savanilla, 1,362 bxs.

Soap Powder—
New York, 1,000 bxs. B. F. Babbitt

Sodium Acetate—
Antwerp, 18 cks.

Starch—
Antwerp, 80 cks. 60 cs.
,, 172 Fletcher & Co.
Dunkirk, 160
Rotterdam, 203

Stearine—
Antwerp, 38 bgs. Fletcher & Co.
,, 7

Tallow—
Baltimore, 110 brls.
B. Ayres, 229 cks. Liebig's Extract Meat
,, 580
Tacoma, 225
Boston, 400 tres.
New York, 50 hhds. Co-op. W'sale Soc., Ld.
Sydney, 515 cks. ,,

Tartaric Acid—
Marseilles, 20 brls.

Tin Ore—
A'fagasta, 6,900 bgs. Ldn. City & Mid. Bank
,, 136 Schroeder & Co.
,, 6,678 Titley & Co.
,, 3,380 A. Gibbs & Sons
,, 1,826 Aramayo & Co.
,, 323 Bk. Anglo S. America

Turpentine—
Lisbon, 1 brl.

Ultramarine—
Rotterdam, 33 pks.

Wax—
Pernambuco, 52 bgs.
Hamburg, 34 pks.
Philadelphia, 177 brls.
Valparaiso, 35 bgs.
,, 2 cs. H. Kendall & Son
,, 8 O. Wolfe
,, 27 F. M. Wolffe
Conakry, 8 bls. Cie Francaise de Kong

Wax (Scale)—
Baltimore, 240 brls.

White Lead—
Rotterdam, 191 cks.

Zinc Oxide—
New York, 350 brls.
Antwerp, 25

Zinc White—
Rotterdam, 96 cks.

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MANCHESTER

Week ending August 31.

Ammonia—
Philadelphia, 130 cylds.
Rotterdam, 20 cs.

Antimony Salt—
Rouen, 3 dms.

Arsenic—
Barcelona, 27 brls.

Barytes—
Antwerp, 100 bgs.
" 100 Fletcher & Co.

Castor Oil—
Marseilles, 5 cs.

Caustic Potash—
Gothenburg, 24 dms.

Chemicals (*otherwise undescribed*)
Antwerp, 3 cks.
Ghent, 100 bgs.
Hamburg, 16
Rotterdam, 15 21 brls. 7 cs.

Coal Products—
Alizarine
Rotterdam, 38 brls.
Creosote Salt
Rotterdam, 1 ck.
Tar Salt
Hamburg, 3 brls.
Rotterdam, 4 cks.

Colours—
Hamburg, 15 cks.
Rouen, 150
Rotterdam 22 257 brls. 29 cs.

Copper Oxide—
Rotterdam, 10 cks.

Dextrine—
Philadelphia, 350 bgs.
Stettin, 20 Brown, Geveke & Co.

Dyestuffs—
Indigo Paste
Rotterdam, 74 brls. 15 cks. 1 cs.
Tannic Acid
Stettin, 23 cks.
Tannin
Antwerp, 5 cks. Fletcher & Co.
Hamburg, 4
Tannin Extract
Ghent, 50 brls.

Farina—
Hamburg, 900 bgs.
R'terdam, 3,150
Stettin, 590 Brown, Geveke & Co.
" 870

Felspar—
Christiania, 201 bgs.

Glucose—
N. York, 1,020 brls. 5,649 bgs.
Stettin, 100

Glue—
Antwerp, 77 bls.
Rotterdam, 50 bgs.
Rouen, 10
Hamburg, 20

Glue Stock—
Marseilles, 375 bgs.

Lactic Acid—
Rotterdam, 20 cks.

Litharge—
Rotterdam, 37 cks.

Magnesia—
Rotterdam, 20 cs.

Manganese—
Bombay, 1,000 t. Wigan Coal & Iron Co.
New York, 25 cks.

Oxalic Acid—
Hamburg, 4 cks.

Paraffin Scale—
N. York, 469 brls.
Philadelphia, 752

Paraffin Wax—
Philadelphia, 125 brls.

Potash—
New York, 22 cs.

Potassium Chlorate—
Antwerp, 19 brls.

Potassium Prussiate—
Antwerp, 18 cks.

Pyrites—
Pomaron, 1,420 t.

Rosin—
New York, 200 brls.

Salt (Waste)—
Hamburg, 200 t.

Soap—
Marseilles, 1,013 cs.
New York, 200 brls.

Sodium Chlorate—
Treport, 40 cks.

Starch—
New York, 3,660 bgs.
Antwerp, 750 cs. Fletcher & Co.
" 334
Ghent, 24
Rotterdam, 200

Stearine—
Antwerp, 63 bgs.
Rotterdam, 6 bls.

Turpentine—
Skutskar, 1 brl.

Ultramarine—
Rotterdam, 17 cks. 10 cs.

Wax—
Hamburg, 2 bgs.
N. York, 15 cs. 200 brls.
Philadelphia, 115

White Lead—
Rotterdam, 7 cks.

Zinc Oxide—
Rotterdam, 40 brls.

HULL.

Week ending August 31.

Acetic Acid—
Rotterdam, 33 cks. Hull & N. S.S. Co.
Fredrikst'd, 136
Stettin, 17 cbys. Wilson, Sons & Co., Ld.

Antimony—
Dunkirk, 20 brls.

Barytes—
Antwerp, 109 cks. 598 bgs.
Rotterdam, 94 Hull & N. S.S. 400 bgs. Co.
Amsterdam, 45 cks. " 100 bgs. "

Chemicals (*otherwise undescribed*)
Rotterdam, 10 cks. Hull & N. S.S. Co.

Coal Products—
Alizarine
Rotterdam, 61 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 116 pks. Hull & N. S.S. Co.
" 6 cks. 1 cs. H. & B. Rly. S.S. Line
Naphthaline
Antwerp, 1 cs. Wilsons N.E. R. S. Co.
Pitch
Archangel, 500 brls.
Antwerp, 5 cks.
Tar
Archangel, 2,973 brls.
Tar Oil
Rotterdam, 81 cks. Hull & N. S.S. Co.

Colours—
Rotterdam, 13 cks. Hull & N. 135 pks. S.S. Co. 2 cks. H. & B.
" Rly. S.S. Line
Antwerp, 10 Wilsons & N.E. R. S. Co.
Zeebrugge, 25 13 cs.

Dextrine—
Stettin, 50 bgs.

Farina—
Antwerp, 40 brls.
Rotterdam, 17 cks. 5 cs. H. & B. Rly. S.S. Line
Harlingen, 50 bgs. Hull & N. S.S. Co.
Stettin, 200 bgs.

Glue—
Antwerp, 20 bls. Wilsons & N.E. R. S. Co.
Rotterdam, 5 cks. Hull & N. S.S. Co.
Rouen, 17 pks.

Glue—
Hamburg, 10 bgs. 6 cks.

Glycerine—
Hamburg, 2 cks. 5 cs.

Lead Nitrate—
Genoa, 6 brls.

Litharge—
Hamburg, 16 crts.

Oleine—
Antwerp, 12 brls.

Olive Oil—
Messina, 10 cks.

Plumbago—
Genoa, 50 bgs.
Bremen, 43 cks. Veltmann & Co.

Potash—
Bremen, 4 cks. Veltmann & Co.
" 50 dms.
Hamburg, 20
Dunkirk, 14 cks. Wilsons & N.E.R. S. Co.

Red Lead—
Amsterdam, 13 cks. Hull & N. S.S. Co.

Rosin—
Rotterdam, 6 cs. Hull & N. S.S. Co.
Fernandena, 2,750 brls.

Rubber—
Stockholm, 5 cs.

Soap—
Rotterdam, 6 brls. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 110 bgs.
Antwerp, 9 cks.

Starch—
Antwerp, 552 cs.
Bremen, 905 Veltmann & Co.
Ghent, 56 Wilsons & N.E. R. S. Co.

Sulphur—
Bremen, 35 blns. Veltmann & Co.

Tallow—
Antwerp, 63 bgs.

Tartaric Acid—
Rotterdam, 4 cks. Hull & N. S.S. Co.

Tin Salt—
Rotterdam, 30 dms. Hull & N. S.S. Co.

Turpentine—
Fernandina, 2,000 brls.
Brunswick, 1,000

Ultramarine—
Bremen, 20 cks.

White Lead—
Rotterdam, 25 cks. Hull & N. S.S. Co.
Amsterdam, 21 "

Zinc Oxide—
Antwerp, 20 brls.

Zinc White—
Marseilles, 5 cks.
Rotterdam, 10 Hull & N. S.S. Co.

GLASGOW.

Week ending September 5.

Acetone—
Rotterdam, 1 dm.

Albumen—
Hamburg, 3 cs.

Aluminium—
Antwerp, 12 cks.

Barytes—
Rotterdam, 44 cks.

Calcium Chloride—
Hamburg, 1 ck.

Chemicals (*otherwise undescribed*)
Rotterdam, 16 cs. 20 brls.

Coal Products—
Alizarine
R'tterdam 28 pks. 90 brls.

Colours—
Rotterdam, 99 pkgs.
Ghent, 4 brls.

Cottonseed Oil—
Rotterdam, 10 brls.

Cream of Tartar—
Oporto, 3 cks.

Dyestuffs—
Cutch
Rangoon, 500 bxs.
Myrabolans
Coconada, 2,709 bgs.

Formic Acid—
Hamburg, 80 cbys.

Glucose—
New York, 660 brls.

Glue—
New York, 145 brls.

Lithopone—
Rotterdam, 102 cks.

Manure—
Christiania, 19 cks.

Oleine—
Rotterdam, 2 cks.

Oleine Oil—
Antwerp, 1 ck.

Oxalic Acid—
Hamburg, 5 cks.

Paraffin Scale—
New York, 99 brls.
Rangoon, 160 bgs.

Paraffin Wax—
Baltimore, 225 brls.
Amsterdam, 5 bgs.

Plumbago—
Hamburg, 3 cks.

Potash—
Rotterdam, 80 cks.
Hamburg, 5

Potash Lye—
Rotterdam, 25 dms.
Hamburg, 40

Potassium Carbonate—
Antwerp, 9 cks.

Potassium Permanganate—
Hamburg, 20 cks.

Potassium Prussiate—
Hamburg, 3 cks.
Rotterdam, 11

Rosin—
Oporto, 125 cks. 39 cs.
New York, 100 brls.
St. John, N'fld., 500
Baltimore, 850

Soap Oil—
Antwerp, 30 brls.

Soap Powder—
New York, 1,400 bxs.

Soda Crystals—
Antwerp, 100 bgs.

Starch—
Antwerp, 658 cs.
Amsterdam, 60 bgs.
N. York, 1,200
Rotterdam, 20

Stearine—
Antwerp, 6 bgs.
Rotterdam, 26 bls.

Sulphur—
Catania, 10 cks. 500 bgs.

Sulphur Chloride—
Rotterdam, 34 btls.

Sulphuric Acid—
Rotterdam, 20 cylds.

Tartar—
Bordeaux, 724 cks.
Genoa, 4

Ultramarine—
Rotterdam, 18 pks.

Wax—
New York, 320 brls.

Zinc Oxide—
Antwerp, 16 brls.
New York, 200

Zinc White—
Rotterdam, 20 cks.

TYNE.

Week ending August 31.

Antimony—
Hamburg, 2,722 bgs. Tyne S.S. Co.

Antimony Ore—
Hamburg, 1,075 bgs. Tyne S.S. Co.

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Coal Products—
Pitch
Archangel, 50 cks. Mawson, Clark & Co.
" 50 W. Douglas & Co.
Tar
Archangel, 50 brls. Dixon, Corbitt & R. S. Newall
" 100 Mawson, Clark & Co.
" 160 W. Douglas & Co.
Tar Oil
Archangel, 15 brls. Hoyle, Robson, Barnett & Co.

Colours—
Hamburg, 5 cs. Tyne S.S. Co.

Copper Oxide—
Hamburg, 32 dms. Tyne S.S. Co

Glucose—
New York, 120 brls. Furness, Withy & Co.

Paraffin Scale—
New York, 515 brls. Furness, Withy & Co.

Phosphate—
Antwerp, 500 bgs. Tyne S.S. Co.

Rosin—
New York, 850 brls. Furness, Withy & Co.

Soap Powder—
N. York, 1,000 bxs. Furness, Withy & Co.

Starch—
Antwerp, 90 cks. Tyne S.S. Co.

Zinc Oxide—
New York, 150 brls. Furness, Withy & Co.

Zinc White—
Antwerp, 20 brls. Tyne S.S. Co.

GOOLE.

Week ending August 31.

Caoutchouc—
Hamburg, 2 cs.
Boulogne, 1

Chemicals (*otherwise undescribed*)
Antwerp, 135 cks.
Boulogne, 30 3 cs. 58 dms.
Ghent, 546 bgs.
Hamburg, 65 78 cbys. 120 26 cs.
Rotterdam, 43 13

Ovestuffs (*otherwise undescribed*)—
Boulogne, 2 cks.
Hamburg, 263 6 cs.
Antwerp, 13 2
Rotterdam, 393 46

Farina—
Hamburg 4 cs. 100 bgs.
Delfziel, 350

Glue—
Hamburg, 1 cs.
Antwerp, 50 bgs.
Rotterdam, 6 cs.

Pyrites (Iron)—
Drontheim, 1,290 t.

Salt (Waste)—
Hamburg 750 t. 500 bgs.

Starch—
Antwerp, 120 cs.
Ghent, 20
Rotterdam, 40 5 cks.

Stearine—
Antwerp, 30 bgs.
Boulogne, 7 ck.
Hamburg, 50 cs.
Rotterdam, 1

GRIMSBY

Week ending August 28.

Acetic Acid—
Helsingborg, 100 dms.

Barytes—
Rotterdam, 4 cks.

Calcium Carbide—
Christiania, 100 dms.

Caoutchouc—
Hamburg, 2 cs.
Antwerp, 7
Rotterdam, 6

Chemicals (*otherwise undescribed*)
Antwerp, 8 cks.
Hamburg, 2 9 cs.
Rotterdam, 4

Coal Products—
Tar Oil
Antwerp, 2 t.

Colours—
Hamburg, 26 pks.
Rotterdam, 1 ck. 27 dms.

Dyestuffs (*otherwise undescribed*)—
Hamburg, 6 cks.
Rotterdam, 1 bel.

Dyestuffs—
Extracts (*otherwise undescribed*)
Antwerp, 2 cks.

Ferro Chrome—
Dieppe, 134 cks.

Glue—
Antwerp, 10 bgs.

Starch—
Hamburg, 1 bg.

Wax—
Hamburg, 2 pks.

Zinc Oxide—
Antwerp, 20 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 4.

Alum—
Wellington, 10 c. £3

Ammonia—
Valparaiso, 7 cs. £7
Delagoa Bay, 11 26
Calcutta, 21 44
Zanzibar, 1 14
E. London, 4 6
Gibraltar, 8 11
Brussels, 4 5
Napier, 2 6
Durban, 10 29

Ammonium Carbonate—
Demerara, 15 cs. £21
Singapore, 6 27
Paris, 4 cks. 33
Riga, 25 kgs. 27
Cologne, 18 28
Bangkok, 16 cs. 38

Ammonium Muriate—
Auckland, 1 t. 10 c. £36
Melbourne, 2 48

Ammonium Sulphate—
Rouen, 39 t. 8 c. £165
Yokohama, 150 1,800
Kobe, 100 1,185
Demerara, 35 427
Treport, 39 8 465

Antimony (Regulus)—
Hamburg, 9 t. 15 c.

Arsenic—
Durban, 2 cs. £6

Basic Slag—
Demerara, 78 t. 10 c. £175

Bismuth Salt—
Yokohama, 15 cs. £330

Borax—
Rotterdam, 1 c. £5
Beira, 10 19
Sydney, 3 t. 108

Caustic Soda—
Bombay, 4 c. £17
Shanghai, 12 7
Durban, 18 20
Perth, 6 7
Fremantle, 8 10

Chalk—
Bremen, 10 t.

Chemicals (*otherwise undescribed*)
Calcutta, 2 cks 2 cs. £21
P. Alegre, 3 kgs. 7
Rangoon, 1 1 1 dm. 16 1 cs.
Cape Breton, 2 10
Harlingen, 1 3
Rotterdam, 56 10 kgs. 186

Chemicals (*otherwise undescribed*)
Bombay, 100 dms. £11
Sydney, 2 cs. 33
E. London, 9 pks. 8
Cape Town, 41 25
Algoa Bay, 192 6
Ghent, 20 cks. 5 80
Hamburg, 6 203
Tarkwa, 1 10
Odessa, 3 75
Melbourne, 5 pks. 11
Singapore, 6 7
Copenhagen, 5 cks. 1 65
Cologne, 70 105
Montreal, 100 400
Fremantle, 140 232
Kobe, 49 123
Delagoa Bay, 120 216
Bremen, 1 55
Brussels, 5 c. 9

Citric Acid—
Hiogo, 10 c. £97
Bombay, 2 12
Durban, 2 22
Calcutta, 2 12
Melbourne, 10 99
Venice, 7 58
Hamburg, 19 142

Coal Products (*otherwise undes.*)—
Boston, 500 brls. £810

Coal Products—
A lline Dye
Boulogne, 3 cks. 7 pks. £101
Carbolic Acid
Rangoon, 25 dms. £10
Amsterdam, 40 cks. 114
Sydney, 25 11
Carbolic Acid (Powder)
Auckland, 2 cs. £5
Mirbane Oil
St. Petersb'g, 6 cs. 10 dms. £20
Naphthaline
Constanti'ple, 30 cks. £35
Calcutta, 20 35 cs. 26
E. London, 5 13
Pitch
Durban, 40 kgs. 87
Hamburg, 50 brls. 100
Alexandria, 100 24
Antwerp, 150 t. 191
Tar
Baku 30 dms. £24
Simonstown, 24 brls. 18
Wellington, 50 10
Salamis, 200 41
Tar Oil
Gothenburg, 250 brls. £180
Hamburg, 250 cks. 126

Copper Sulphate—
Rotterdam, 9 t. 9 c. £310
Amoy, 4 7
Newcastle, 1 31

Cottonseed Oil—
Genoa, 33 t. 17 c.
Rotterdam, 7 6
Shanghai, 3 14
Marseilles, 25 6

Cream of Tartar—
Adelaide, 1 c. £5
Durban, 3 14

Cyanide (*otherwise undescribed*) —
Sydney, 2 t. 8 c. £166
Melbourne, 3 202

Disinfectant—
Colombo, 2 cs. £5
Beira, 5 11
Hamburg, 10 cks. 28
Montreal, 11 16
Marseilles, 25 35
Copenhagen, 1 37
Calcutta, 6 18
E. London, 1 5
Christchurch, 2 tnks. 86
Lyttelton, 2 20 dms. 36
Cologne, 2 5 88
Auckland, 34 pks. 29
Melbourne, 100 14
Penang, 79 59
Fremantle, 5 brls. 2 17
Delagoa B., 100 cks. 29

Glycerine—
New York, 31 t. 1 c. £985
Perth, 1 57
Mitvline 3 14

Hydrocarbon—
Cologne, 19 dms. £16

Linseed Oil—
Alexandria, 10 t. 5 c.
Bahia, 4 9
Barbadoes, 10
Beira, 1 16
Bombay, 7 13
Bordeaux, 1 16
Calcutta, 4
Colombo, 3 2
Constanti'ple, 2 10
Geraldton, 6
Gisborne, 13
Hamburg, 1 2
Hiogo, 2 2
H. Kong, 3 14
Mauritius, 1 12
Melbourne, 5
Pelotas, 1 19
P. Alegre, 3 10
Piræus, 1 14
P. Elizabeth, 19
Progresso, 2
P. Arenas, 18
Rio de Jan., 13 3
Rosario, 8 16
St. Helena, 8

Linseed Oil—
Auckland, 9 t. 11 c.
Callao, 10 1
Curacao, 2 15
Delagoa Bay, 5
Durban, 6 12
Malta, 7
Rangoon, 1 14
Sydney, 8 14
Syria, 1 8
Tampico, 2 16
Trinidad, 8
Valparaiso, 2 1
Yokohama, 4 10

Magnesium Citrate—
Hamburg, 3 cs. £15

Manganese Bronze—
Bremen, 5 t.

Manure—
Marseilles, 13 t. £83
Boston, 1 15
N. Orleans, 50 259
Villa Real, 600 1,490
Kobe, 100 1 c. 825
Lisbon, 1 7
Durban, 17 17 110
Penang, 37 10 285

Phosphoric Acid—
Melbourne, 1 cs. £5

Phosphorus—
Sydney, 41 pks. 15 cs. £378
Melbourne, 1 6
Auckland, 5 33

Plumbago—
Bombay, 2 t.

Potash—
Brussels, 4 c. £15

Potassium Cyanide—
Melbourne, 2 t. £152
Beira, 1 c. 6

Potassium Iodide—
Melbourne, 1 cs. £12

Quinine—
Bankok, 300 oz.
Canton, 1,000
Constanti'ple, 883

Salammoniac—
Adelaide, 4 c. £5
Mersyne, 10 20

Salt—
H. Kong, 2 t.
Aden, 1

Saltpetre—
N. Orleans, 17 t. 4 c. £421
Rio de Jan., 1 5 30
Melbourne, 6 1 153

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Sheep Dip—
Cape Town, 2 t. 6 c. £19

Silver Nitrate—
Auckland, 1 cs. £9
Sydney, 1 55

Soap—
Alexandria, 4 t. 7 c.
Antwerp, 1 11
Bangkok, 13
Bilbao, 1
Bombay, 2 1
Boulogne, 1 1
Canaries, 7
Channel Is., 8
Christiania, 4
Colombo, 4
Demerara, 5
E. London, 1
Fiji, 2
Gibraltar, 1
Hamburg, 1 6
Hobart, 2
H. Kong, 7
Kobe, 2 13
Malta, 4
Mauritius, 2
Nelson, 2
Napier, 1
Ostend, 2
P. Elizabeth, 12
P. Arenas, 14
Rotterdam, 7 7
St. John, N.B., 4
Shanghai, 2
Singapore, 11
Sydney, 2
Auckland, 11
Calcutta, 10
Chinde, 11
Constanti'ple, 8
Delagoa Bay, 6
Durban, 6
Flushing, 4
Karachi, 1 4
St. Petersburg, 7
St. Thomas, 4
Singapore, 4
Toronto, 1
Valparaiso, 1
Zanzibar, 2 9

Soap Extract—
Christiania, 1 t. 1 c.

Soap Powder—
Lyttelton, 3 t. 6 c.

Soda Salts—
Durban, 7 c. £40

Sodium Arsenite—
Delagoa Bay, 1 t. 2 c. £38

Sodium Bicarbonate—
Amsterdam, 1 t. 3 c. £9

Sodium Cyanide—
Auckland, 5 t. £485

Sodium Sulphite—
Toronto, 1 t. 6 c. £9

Starch—
Bordeaux, 2 t. 10 c.
Channel Is, 14
Mauritius, 9
Mossel Bay, 1 7
St. John, N.B., 4
Aden, 2
Durban, 4
Wellington, 2 10
Wanganui, 3

Sulphur—
Ostend, 1 ck. £7
Boulogne, 1 kg. 7

Sulphuric Acid—
Penang, 2 t. £15
Colombo, 3 18 c. 27
H. Kong, 3 15 22
Durban, 15 9
Beira, 2 16

Superphosphates—
Oporto, 200 t. £475
Calcutta, 10 32
Durban, 25 79

Tallow—
Alexandria, 2 t. 8 c.
Toronto, 1 16
Delagoa Bay, 10
Riga, 25

Tartaric Acid—
Adelaide, 2 c. £13

White Lead—
Adelaide, £381
Napier, 155
P. Elizabeth, 56
Auckland, £283
Bombay, 266
Calcutta, 334
Cape Town, 15
Durban, 20
Sydney, 635

LIVERPOOL.

Week ending September 4.

Acetic Acid—
Genoa, 9 c. £22

Alum—
Talcahuano, 2 t. 10 c. £13
Rio de Jan., 3 1 17
Lisbon, 10 52
Oporto, 10 6 53
Bourgas 3 15
Rangoon, 2 10
Melbourne, 11
Dakar, 2 1

Alum Waste—
Calcutta, 10 t. £29

Aluminous Sulphates—
Vera Cruz, 14 t. 19 c. £47

Aluminous Sulphocyanide—
Lisbon, 1 kg. £3

Ammonia—
Warri, 1 cs. £3
Trinidad, 1 3

Ammonia (Anhydrous)—
Lisbon, 1 c. £8

Ammoniacal Liquor—
Sarawak, 18 c. £20

Ammonium Carbonate—
New York, 4 t. 5 c. £147
Rouen, 19 32
Gothenburg, 17 6
Palermo, 6 10
Venice, 19 33
Bahia, 2 6
Quebec, 9 16
Marseilles, 14 22
Bombay, 10 17
Rangoon, 1 7 47
Seville, 1 10 49
Barcelona, 17 28
Melbourne, 19 25

Ammonium Liquid—
Bombay, 2 c. £4

Ammonium Muriate—
New York, 11 t. 5 c. £270
Philadelphia, 52 15 1,180
Baltimore, 15 18 381
Genoa, 9 8 212
Antwerp, 5 1 121
Hamburg, 99 19 2,399
Cairo, 1 24
Venice, 1 4 29
Rouen, 3 11 90
Santander, 1 1

Ammonium Sulphate—
Las Palmas, 51 t. £610
Barbadoes, 25 297
Lisbon, 19 17 c 232
Baltimore, 100 1,141
New York, 25 5 296
Samarang, 30 8 372
Yokohama, 149 17 1,758
Sourabaya, 74 15 924
Calicut, 10 120
Santander, 19 7 240
Teneriffe, 30 366
Bilbao, 39 17 490
Barcelona, 20 240
Tarragona, 10 120
Alicante, 15 180
Cadiz, 5 2 61
Kobe, 50 8 599
Valencia, 130 1,993
Suez, 6 4
Seville, 5 5 63
Nantes, 26 6 316

Antimony—
Hamburg, 8 cks.
Iquique, 1

Arsenic—
Hamburg, 1 t. 1 c. £34
B. Ayres, 1 19 59
Rouen, 7 10
Conakry, 1 2

Basic Slag—
Leghorn, 151 t. 14 c. £304
Venice, 289 12 579
Ancona, 344 16 690
Corunna, 100 150
Gijon, 39 18 60

Bisulphite of Lime—
Sydney, 20 pks. £

Bleaching Powder—
Boston, 171 cks.
New York, 115
Phila'phia, 157
Portland, 262
Rio de Janeiro, 7 brls. 150 dms. 50 cs.
Valparaiso, 50
Baltimore, 23 cks.
Bombay, 4
Montreal, 54
Oporto, 17
Rio Grande de Sul, 32
Santos, 12

Boracic Acid—
Fremantle, 10 c. £13

Bones—
Hamburg, 10 t. £57

Borax—
S. Cruz, 2 c. £2
Havana, 2 t. 30
Santiago, 7 5
Trebizonde, 10 8
Madras, 14 26
Cairo, 2 30
Madras, 14 26
New York, 20 12 1 brl. 302
Adelaide, 2 32
Melbourne, 1 1 16
Vera Cruz, 10 8

Calcium Chloride—
Algoa Bay, 10 t. £35
Delagoa Bay, 1 dm. 1
Genoa, 5 1 c. 16
Copenhagen, 13 1
Odessa, 35 2 97
Natal, 10 20
Melbourne, 20 4 60
Manilla, 13 2
Leghorn, 5 2 13

Calcium Sulphydrate—
Antwerp, 10 t. 3 c. £42

Carbonate of Lime—
New York, 8 t. 10 c. £93

Caustic Potash—
Bombay, 5 c. £10

Caustic Soda—
Acapulco, 35 dms.
Batavia, 150
Calcutta, 106
Delagoa Bay, 20 bxs.
Durban, 20 cs. 39
Fiume, 40
Galatz, 138
Galveston, 512
Genoa, 325
Hamburg, 170
Lisbon, 154
Manilla, 130
Naples, 190
New York, 100 brls.
Oporto, 196
Pernambuco, 60
Piræus, 50
P. Alegre, 100 cks.
P. Cabello, 10
Rosario, 12
Salonica, 51
San Francisco, 70
Sydney, 40
Wellington, 15
Melbourne, 200 cs.
Havana, 150
Bahia, 650
Balck Pappam, 104
Barcelona, 75 157
Bombay, 105
B. Ayres, 300
Coruna, 20 brls.
Hiogo, 226
La Guayra, 10
Maceio, 120
Monastir, 3
Montreal, 50
Paranagua, 10 cs.
Rio de Jan., 242
Rio Grand. de Sul, 20
Samarang, 10
Santos, 20
Shanghai, 68
Sourabaya, 62

Chemicals (*otherwise undescribed*)
Lisbon, 1 cs. £7
Marseilles, 1 kg. 2
Ghent, 10 brls. 38
Naples, 10 cks. 67
Callao, 90 dms. 193
B. Ayres, 300 826
Antwerp, 30 brls. 48
Hamburg, 19 134 bgs. 292
Montreal, 2 8
Halifax, 4 12
Gothenburg, 15 kgs. 25
Odessa, 70 105
Trieste, 17 50

China Clay—
Lisbon, 13 cks.
Nagasaki, 80
New York, 90
Venice, 40
Genoa, 459 bgs

Coal Products—
Aniline Colour
Barcelona, 1 cs.
Genoa, 28 cks.
Boston, 1
Calcutta, 2 kgs.
Carbolic Acid
New York, 10 t. £480
Melbourne, 5 c. 7
Carbolic Acid (Liquid)
Rangoon, 9 c. £8
Carbolic Acid (Powder)
Melbourne, 7 t. 10 c. £32
Carbolic Acid (Solid)
Montreal, 10 c. £26
Rouen, 6 21
Hamburg, 20 t. 19 980
Dunkirk, 13 36
New York, 5 11 237
Rotterdam, 10 5 478
Trieste, 1 49
Creosote Oil
New York, 42 t. 8 c. £192
Tar
Braila, 20 brls.
Havre, 7 dms.

Colour—
Corfu, 5 cks.
Lisbon, 1 cs. 1 bx.
Nassau, 28 pks.
Bombay, 104
Calcutta, 5 kgs.
Madras, 30
Mauritius, 100

Copperas—
Las Palmas, 8 t. 10 c. £21
Rotterdam, 1 9 4

Copper Sulphate—
Libau, 2 t. 19 c. £89
Stettin, 1 5 38
Varna, 10 14
Hamburg, 1 8 38
Singapore, 2 10 71
Bucharest 2 60
Rangoon, 15 25
Barcelona, 9 2 136
Gijon, 3 3 77
Bordeaux, 9 19 255
Konigsberg, 3 17 96
Antwerp, 19 26
Vera Cruz 50 1,494
Tampico, 24 17 651
Palermo, 1 1 26
Calcutta, 2 53
Ghent, 2 8 64
Trinidad, 10 12
Alicante, 2 3 52
M. Video, 5 144
Constanti'ple 11 14
Galveston, 10 285
Lagos, 6 8

Cottonseed Oil—
Bathurst, 45 brls.
Las Palmas, 2
Algiers, 75
Marseilles, 695

Cyanide (*otherwise undescribed*)—
Auckland, 2 t. £2,064

Disinfectants—
Karachi, 525 dms. £40
Sekondi, 1 cs. 2
Calcutta, 250 36
S. Leone, 2 4
New York, 42 cks. 112
Opobo, 1 1
Calabar, 1 1
Sydney, 10 pks. 70
Tarkwa, 2 2
Lyttelton, 20 6
Bombay, 50 cks. 18
Mossel Bay, 10 3
C. Town, 10 £35
Calcutta, 10 15

Dried Blood—
Las Palmas, 5 t. 10 c. £53
P. Cortez, 2 20

Dyestuffs—
Dyewood Extract
Passages, 3 cks.
Logwood
Alexandria, 100 bgs.
Tannin Extract
Copenhagen, 25 cks.
Gothenburg, 25

Fertilisers—
Montreal, 17 t. £215

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Fish Oil—
Havre 40 brls.

Glue—
Auckland 3 cs.
New York 40 bls. 10 dms.
Rangoon 45 cks.
Bombay 39
Christchurch 3 pks.

Glycerine—
Yokohama 51 t. 16 c. £2,493
Natal 2 6
Johannesburg, 1 cs. 2
Madras, 2 6
Christiania, 6 14
Galatz, 1 56
Osaka, 4 16 230
Bathurst, 1 1
Quebec, 43 5 2,300
Delagoa Bay, 73 13 3,027
Algoa Bay, 1 9
C. Town, 9 17 1 q. 427
Montreal, 3 9 161

Gypsum Crystals—
Sydney, 6 c. £2

Iron Oxide—
Calcutta, 20 cks.
Lisbon, 6
Rouen, 25

Linseed Oil—
Alexandria, 90 brls.
Bombay, 486 dms.
Cape Town, 250
Cephalonia, 18
Cienfuegos, 14
Corfu, 7
Fernando Po., 8
Galatz, 39
Havana, 11 cks.
Kingston, 40
Manaos, 2 50
Palermo, 10
Palmo, 2
Savanilla, 6 cs.
Tampico, 4
Wellington, 35 dms.
Candia, 10
Curacao, 10
Genoa, 7 cs.
Hamburg, 1 5 dms.
Iquitos, 7
Madeira, 2
Madras, 4 75
Piræus, 3
Salonica, 9
Santiago, 12
Smyrna, 25

Magnesia—
Melbourne, 1 t. 12 c. £25
Vera Cruz, 4 12
New York, 10 41
Guayaquil, 2 5
Brisbane, 1 cs. 2

Magnesite (Calcined)—
Adelaide, 1 t. £15
Melbourne, 11 c. —

Magnesium Carbonate—
Bahia, 2 c. £5
Rouen, 1 t. 9 24
Barcelona, 2 16 59
Seville, 14 12

Magnesium Chloride—
Singapore, 1 t. 3 c. £5
Lisbon, 3 3 9
Montreal, 10 5 29
Rouen, 10 43
Salonica, 3 4 10

Manganese—
Hamburg, 28 cks.
Leghorn, 9

Manganese Ore—
Philadelphia, 17 t. 16 c.
Delagoa Bay, 100 dms.

Manure—
Yokohama, 14 t. 5 c. £70
Gd. Canary, 14 171
Teneriffe, 5 48

Nitric Acid—
Manaos, 1 c. £4

Phosphates—
Sydney, 1 cs. £8

Phosphorus—
Shanghai, 1 t. 2 c. £165

Plumbago—
Mollendo, 17 cs.

Potassium Bichromate—
Mexico City, 1 t. 19 c. £62
Catania, 8 13
Bombay, 2 10 78

Potassium Chlorate—
Konigsberg, 11 t. £329
Manilla, 5 150
Kalmar, 1 18 c. 58
H. Kong, 1 10 45
Kobe, 35 1,050
Rio de Jan., 25 15 774
Oporto, 4 18 147
Naples, 6 7 194
Genoa, 1 18 60
Amoy, 10 17
Bari, 4 121
Fairwater, 1 10 45
Manaos, 10 17
Yokohama, 12 10 375

Potassium Prussiate—
Genoa, 3 t. 18 c. £294

Potassium Cyanide—
Melbourne, 11 t. 1 c. £840

Potassium Stannate—
Bombay, 1 t. 3 c. £131

Red Lead—
Boston, 20 cks.

Salammoniac—
Lagos, 6 c. £12
Trieste, 10 19
Palermo, 5 10
Constantin'ple, 1 t. 38
Melbourne, 11 20
Madras, 2 80
Bombay, 2 5 88

Salt—
Aalborg, 672 t.
Antwerp, 125
Batanga, 100 12 c.
Boston, 100
Brass, 559
Calabar, 409 15
Calcutta, 7,832 25 cs.
Cape Town, 8 18
Christiania, 355
Durban, 25
Fredericia, 1,000
Galveston, 526
Hamburg, 10
Kingston, 24 15
Lyttelton, 160
Montreal, 994 2
New York, 60
Okonedi, 14
Opobo, 53
Orebak, 80
P. Elizabeth, 32 3
Quebec, 50
Rio del Rey, 27
Stockholm, 12
Sydney, 530
Warri, 515
Abonnema, 60 6 500 bgs.
Baltimore, 115
Barbadoes, 16 13
Bombay, 75 cs.
B. Ayres, 100
Burutu, 320
Ciudad Bolivar, 12
Curacao, 1
Iquitos, 15 10
Manaos, 37 2
N. Orleans, 150
Portland, 150
Shanghai, 50
Trinidad, 26 16

Saltcake—
Philadelphia, 50 t. 11 c. £84
Leghorn, 200 597
Antwerp, 49 17 50
Lisbon, 30 30

Saltpetre—
Orebak, 1 c. £1

Sheep Dip—
Bahia, 3 t. 3 c. £120
Durban, 6 10
M. Video, 10 1 307
Delagoa Bay, 6 5 100
B. Ayres, 1,000 dms. 500
E. London, 4 103
Oamaru, 1 5 c. 42
Invercargill, 4 8
Algoa Bay, 20 cks. 9 cs. 21
Auckland, 11 c. 18
Wellington, 5 11
Blenheim, 2 4
Lyttelton, 12 21

Soap—
Accra, 960 bxs.
Antwerp, 10 kgs. 221
Assini, 140
Axim, 10 cs.
Aboina, 250
Bangkok, 50
Barbadoes, 800
Bathurst, 620
Bermuda, 305

Soap—
Bombay, 10 brls. 816 bxs. 148 cs.
Boston, 55
Cape Town, 947
Demerara, 300
Durban, 160 135
Galatz, 51
Gibraltar, 109 800
Guayaquil, 152
Hamburg, 18 225
Havana, 2
Jamaica, 315
Kingston, 178
Kribi, 204
Manaos, 2 2,993
Nicosie, 10
P. Elizabeth, 25
Sapeli, 200
Shanghai, 42 200
Singapore, 25 2,100
Sulina, 11
Alexandria, 78
Calabar, 39
Calcutta, 5 92 550 265 pks.
Canada, 30
Colombo, 46
Copenhagen, 40
Delagoa Bay, 365
Dunkirk, 1,300
E. London, 60
Galata, 104
Genoa, 11 1
Gd. Canary, 1,645
Iquitos, 148 bdls.
Karachi, 36 1,499
Lagos, 860
Leghorn, 2 cks.
Malta, 29
Manilla, 60
Marseilles, 300
Mossel Bay, 15
Patras, 8 pks. 10
Samarinda, 100

Soap Powder—
Delagoa Bay, 15 skl-cs.
Antwerp, 100 bxs.
Cape Town, 10
Colombo, 25 kgs.
Dunkirk, 50

Soda Ash—
Barcelona, 84 cks.
Boston, 14
Copenhagen, 2,000 bgs.
Delagoa Bay, 76
Durban, 65
Genoa, 20 500
Gothenburg, 1,076
Hamburg, 25
Leghorn, 200
Lisbon, 500
Montreal, 1,396
New York, 14
Oporto, 12 4 brls.
Patras, 8
Rio de Jan., 80
Rotterdam, 200
Salonica, 30
Smyrna, 360
Torreon, 62
Venice, 400
Vera Cruz, 30
Yokohama, 300
Bombay, 60
Calcutta, 1,100
Constantinople, 250
Hiogo, 10
Manaos, 10 kgs.
Para, 20
Rio de Jan., 33
Rio Gan. de Sul, 10 brls.
Rotterdam, 1,352
Santos, 100 20 kgs.
Shanghai, 117 672
Singapore, 40
Valencia, 100

Soda Crystals—
Demerara, 30 brls.
Gibraltar, 100
Malta, 222
New York, 36 cks.
Patras, 42
Port Said, 22
Port Elizabeth, 20 90 dms. 62 kgs.
Valparaiso, 320
Antwerp, 30
Bombay, 120
Calcutta, 30
Cape Town, 195
Hiogo, 50
Montreal, 100
Santos, 30

Sodium Arseniate—
Port Elizabeth, 400 dms.

Sodium Bicarbonate—
Alexandretta, 10 bgs.
Alexandria, 10 brls.
Barbadoes, 3 cks. 100 kgs.
Calcutta, 1,030
Colombo, 10 12
Grenada, 2 20
Monte Video, 40 40
Oporto, 60
Rio de Jan., 50 49
Singapore, 6 10
Venice, 276
Bahia, 20
Bombay, 375
Cape Town, 12
Coruna, 20
Gibraltar, 40
Havre, 15 bgs.
Hiogo, 500
Lisbon, 40
Manaos, 10
Montreal, 100
Palermo, 50 180
Yokohama, 500

Sodium Hyposulphate—
Montreal, 85 brls.

Sodium Nitrate—
Barcelona, 5 cks.

Sodium Silicate—
Adelaide, 21 dms.
Bombay, 5 cks.
Calcutta, 7 brls.
Catania, 100
Galatz, 68 100 bgs.
Galveston, 64
Gibraltar, 153
Guayaquil, 8
Piræus, 32
Samarang, 3
Sydney, 32
Constanti'ple, 10
Genoa, 250
Lisbon, 10
Odessa, 50
Valencia, 108

Sodium Sulphate—
Montreal, 50 bgs.

Stearine—
Hamburg, 15 trcs.
Copenhagen, 1 cs.
Montreal, 12
Rotterdam, 130 bgs.

Sulphur—
Montreal, 150 t. £623
Lagos, 2 13

Sulphuric Acid—
Sekondi, 20 cs. £6
Manaos, 19 c. 16
Pernambuco, 5 4
Rangoon, 2 8
B. Ayres, 1 t. 3 14
Rio de Jan., 4 9 52

Superphosphates—
Valencia, 802 t. £2,037
Oporto, 198 530
Malaga, 494 19 c. 1,221
Durban, 196 11 523
Lisbon, 148 10 612
Oporto, 99 267
Alicante, 297 792
Las Palmas, 2 10 8
Teneriffe, 14 43
Santander, 183 448
Gijon, 198 490
Santander, 113 280

Tallow—
Gothenburg, 5 brls.
Vigo, 29 bls.
Alexandria, 56
Libau, 28
Odessa, 54
Oporto, 12 cks.
Riga, 55
Rotterdam, 55

Tartaric Acid—
Iquique, 10 c. £31

Tin Oxide—
Hamburg, 2 t. £200

Turpentine—
Alexandria, 30 dms.
Naples, 4 brls.
Accra, 100
Cavite, 5
Madras, 100

Venetian Red—
Galveston, 12 t. 10 c.
New York, 150 brls.

White Lead—
Limon 40 kgs.

Zinc Chloride—
Bombay 3 t. 10 c. £40
Bilbao 1 11
Hamburg 1 dm. 1

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Zinc Muriate—
Ghent, 2 t. 4 c. £29
Antwerp, 12 12 8
Bombay, 12 12 166
Calcutta, 18 13

MANCHESTER.

Week ending September 4.

Ammonium Muriate—
Montreal, 5 cks.
Ammonium Sulphate—
Philadelphia, 150 bgs.
Calcium Sulphide—
Antwerp, 100 brls.
Chemicals (*otherwise undescribed*)
Beyrout, 25 brls.
Bombay, 2 cks.
Coal Products—
Aniline Oil
Boston, 5 dms.
Aniline Salt
Boston, 26 cks.
Carbolic Acid
Philadelphia, 50 brls.
Creosote Salt
Nagog, 15 cks.
Tar
Rotterdam, 56 cks.
Colours—
Boston, 7 cks.
B. Ayres, 1 brl.
Copperas—
Larnaca, 10 brls.
Glue—
Rotterdam, 24 cks.
Iron Oxide—
Hamburg, 15 brls.
Linseed Oil—
B. Ayres, 8 crts. 430 dms.
Magnesium Sulphate—
Beyrout, 10 bgs.
Mineral White—
Antwerp, 42 cks.
Salammoniac—
Alexandria, 20 kgs.
Beyrout, 1 brl.
Salt—
Rotterdam, 180 t.
Soap—
Alexandria, 150 bxs.
B. Ayres, 2 dms.
Sodium Prussiate—
Philadelphia, 26 cks.
Boston, 26 dms.
Stearine—
Rotterdam, 30 cks.
Turpentine—
B. Ayres, 7 crts.
White Lead—
B. Ayres, 31 brls.
Zinc Ashes—
Antwerp, 260 bgs.
Rotterdam, 7 t. 17 c.
Zinc Chloride—
Bombay, 25 cks.

HULL.

Week ending August 31.

Antimony (Crude)—
New York, 100 cks.
Ammonium Sulphate—
Palermo, 480 bgs.
Chemicals (*otherwise undescribed*)
Alexandria, 125 cks.
Amsterdam, 40 10 cs. 18 pks.
Christiania, 20 dms.
Copenhagen, 41 25 kgs.
Danzig, 15 4 888 slbs.
Dronthelm, 5 5 cs. 8 pks. 100 bgs.
G'henburg, 31 10 cs. 8 dms.
Hamburg, 3
Harlingen, 11
Helsingfors, 3 10 kgs.
Palermo, 5
Konigsberg, 35
New York, 20
Rafso, 10
Raume, 25 25
Riga, 52 1 cs. 1
Rotterdam, 20 40
Trieste, 2
Wasa,
Wyburg,

Coal Products—
Pitch
Christiania, 21 kgs.
New York, 74 cks.
Tar
Abo, 2 cks.
Christiania, 21
Christiansund, 5
Dronthelm, 25
Hamburg, 18
Antwerp, 10
Cottonseed Oil—
Amsterdam, 11 t. 5 c.
Hamburg, 31 14
Rotterdam, 2 12
Stockholm, 3 17
Stavanger, 7
Stettin, 25 4
Dyestuffs (*otherwise undescribed*)—
Antwerp, 10 cks.
Danzig, 1 kg.
Hamburg, 1 cs.
Glue—
Stettin, 10 bgs.
Gothenburg, 30
Linseed Oil—
Boston, 1 t. 18 c.
Bremen, 11 4
Christiania, 11
Christiansand, 3 8
Manure—
Copenhagen, 50 bgs.
Ghent, 37 bls.
Dunkirk, 110
Venice, 5,080
Molasses—
Dronthelm, 25 cks. 130 brls.
Helsingfors, 15
Phosphate—
Christiania, 934 t. 6 c.
Dronthelm, 20
Wasa, 556
Copenhagen, 178 1
Stearine—
Palermo, 25 cks.
Turpentine—
Christiania, 7 cks.
Rotterdam, 62
Stockholm, 12

GLASGOW.

Week ending September 5.

Ammonium Muriate—
Belgium, 2 t. 7 c. 2 q.
U.S.A., 10
Ammonium Sulphate—
Demerara, 6 t. 19 c. 1 q.
Kobe, 153 8 2
Nagasaki, 50 9
Osaka, 150 3
Penang, 50 12 2
U.S.A., 716 8 2
Hamburg, 2 7 3
Castor Oil—
Durban, 822 gals.
Caustic Potash—
Melbourne, 1 t.
Caustic Soda—
Philippines, 9 t. 7 c. 2 q.
Chemicals (*otherwise undescribed*)
Belgium, 1 t. 6 c.
Delagoa Bay, 11
Genoa, 1 1 2 q.
Hiogo, 2 15
Kobe, 7 7 1
Coal Products—
Aniline Dye
Calcutta, 4 c.
Creosote Oil
Helsingfors, 260 t. 16 c.
Stavanger, 3
Pitch
Canada, a qty.
Montreal, 7 c.
Tar
Adelaide, 30 t. 6 c.
Delagoa Bay, 6 13 3 q.
Rangoon, 22 10
Canada, a qty.
Christiania, 11 t. 5
Cream of Tartar—
Hiogo, 1 t.
Dextrine—
Genoa, 2 t. 10 c.
Dyestuffs (*otherwise undescribed*)—
Canada, 23 t. 2 c. 3 q.
Dyestuffs—
Logwood Extract
Rotterdam, 5 c.
Tanners' Extract
Belgium, 9 t. 1 q.
Farina—
Melbourne, 1 t. 11 c. 3 q.
Calcutta, 6
Gelatine—
Canada, 9 c.
Fish Oil—
Belgium, 19 t. 8 c. 2 q.
Rangoon, 1 3 3
Rouen, 5 17 2
Leghorn, 16 5 1
Glycerine—
B. Columbia, 7 t. 1 c.
Guano—
Hamburg, 37 t. 14 c. 3 q. 7 lb.
Gutta Percha—
U.S.A., 10 c.
Rotterdam, 206 lb.
Lead Acetate—
Canada, 1 t. 2 c. 3 q.
Linseed Oil—
Melbourne, 395 gals.
Rangoon, 9 t. 16 c. 1 q.
Sydney, 34
Rio de Jan., 3 3 3
Oxalic Acid—
Singapore, 1 t. 7 c. 3 q.
Paraffin (Solid)—
Italy, 53 t. 2 c. 2 q.
Paraffin Wax—
Bombay, 2 t. 7 c.
Delagoa Bay, 1
Rouen, 3 13 2 q.
Christiania, 2
Genoa, 2 19
Leghorn, 6 19 1
Naples, 30 12 3
Helsingfors, 10 3 2 3 lb.
Phosphate—
Durban, 124 t. 9 c. 1 q.
Potassium Bichromate—
Genoa, 2 t. 8 c.
Melbourne, 17 11 1 q.
Antwerp, 15 3
Canada, 1 17
Christiania, 15 3 21 lb.
Potassium Cyanide—
Beira, 1 t. 16 c.
Delagoa Bay, 2 5
Melbourne, 10
Fremantle, 48 17
Potassium Prussiate—
Canada, 1 t. 3 c. 2 q.
Red Lead—
Calcutta, 15 t. 13 c.
Karachi, 8 15
Melbourne, 4 8 2 q.
Yloilo, 1 7 3
Rosin Oil—
Rangoon, 2 t. 4 c. 1 q.
Calcutta, 2 6 2
Scap—
Calcutta, 2 t. 10 c.
Rangoon, 3 9
Natal, 2
Sodium Cyanide—
Johannesb'g, 30 t.
Melbourne, 5 10 c.
U.S.A., 10
Sulphuric Acid—
Rangoon, 46 t. 17 c. 2 q.
Superphosphate—
Lisbon, 645 t. 4 c.
Tallow—
Shanghai, 1 t. 4 c. 1 q.
White Lead—
Calcutta, 3 t. 16 c. 3 q.
Karachi, 73
Natal, 3 5
Zinc White—
Sydney, 1 t. 10 c.

TYNE.

Week ending August 31.

Antimony (Regulus)—
Rotterdam, 3 t.
Canada, 2
Barium Binoxide—
Antwerp, 10 t. 14 c. 22 lb.
Canada, 4 6 11
Bleaching Powder—
Gothenburg, 38 t. 7 c.
Rotterdam, 15 5 2 lb.
Copenhagen, 26 3
Abo, 160 1 2 q. 21
Caustic Soda—
Seville, 134 t. 18 c. 2 q. 8 lb.
Christiania, 2 18 6
Antwerp, 10 14 2 26
Gothenburg, 4 7 2 7
Copenhagen, 21 15 1 2
Genoa, 21 17 2
Canada, 87 1 8
Chemicals (*otherwise undescribed*)
Canada, 21 t. 17 c. 1 q. 25 lb.
Colours—
Christiania, 2 lb.
Litharge—
Christiania, 4 t. 3 c. 2 q. 6 lb.
Antwerp, 1 2 2 5
Gothenburg, 1 6 1 6
Magnesia—
Canada, 10 c. 2 q. 26 lb.
Manure—
Lisbon, 654 t. 15 c.
Sines, 584 9 1 q. 4 lb.
Dunkirk, 14 17 2 4
Trapani, 121 6 12
Red Lead—
Christiania, 3 t. 14 c. 1 q. 13 lb.
Bergen, 1 2 2 23
Abo, 1 5
Salt—
Christiania, 1 t. 18 c. 11 lb.
Soap—
Trondhjem, 18 c. 1 q. 16 lb.
Bergen, 18 1 6
Sodium Silicate—
Christiania, 27 t. 11 c. 14 lb.
Sodium Sulphate—
Christiania, 10 t.
Antwerp, 70
Sodium Sulphide—
Genoa, 10 t. 3 c. 1 q. 26 lb.
Gothenburg, 7 12 3 3
Sulphur—
Gothenburg, 120 t.
Turpentine—
Christiania, 1 q. 12 lb.
White Lead—
Rotterdam, 5 c.
Canada, 75 t. 10 1 q. 18 lb.

GOOLE.

Week ending August 31.

Chemicals (*otherwise undescribed*)
Antwerp, 36 cks. 1 dm.
Boulogne, 4 cs.
Hamburg, 60
Coal Products (*otherwise undes.*)—
Rotterdam, 87 cks.
Coal Products—
Benzol
Boulogne, 16 dms.
Rotterdam, 73
Colours—
Amsterdam, 30 cks.
Boulogne, 100 bgs. 13 29 pks.
Ghent, 1 cs.
Rotterdam, 8
Dyestuffs (*otherwise undescribed*)—
Antwerp, 6 cks.
Rotterdam, 6
Manure—
Boulogne, 238 bgs.
Hamburg, 348

GRIMSBY.

Week ending August 28.

Chemicals (*otherwise undescribed*)
Hamburg, 44 cks.
Coal Products (*otherwise undes.*)—
Dieppe, 40 cks.
Colours—
Dieppe, 1 ck.
Hamburg, 3 pks.
Dyestuffs (*otherwise undescribed*)—
Dieppe, 1 kg.

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PRICES CURRENT.

FRIDAY, September 13, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. *at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.*
The price in different localities may vary.

		£	s.	d.
Acids:—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		41/-	
Arsenic S.G. 2.000°	,,		32/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	3½
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10½
Acetone	per ton	82	10	0
Arsenic, white powdered nett	,,	31	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	16	3
,, ,, ,, Hull	,,	11	16	3
,, ,, ,, Manchester	,,	11	16	3
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	41	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35% nett	,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes:—				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	9½
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5½
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¼
,, (filtered for Lucigen light)	,,	0	0	2¾
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	4	6
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	67	0	0
,, Sulphate	,,	25	10	0
,, Oxide (copper scales)	,,	59	0	0
Glycerine (crude), 80%	,,	31	0	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine nett	per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	22	0	0
,, Litharge Flake (ex ship)	,,	22	15	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils:—				
Cottonseed	per ton	27	15	0
Linseed	,,	24	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate nett	,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	21	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5½
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz	0	2	7½
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton (f.o.r w'ks.)	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, (f.o.r w'ks.)	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, (f.o.r w'ks.)	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, (f.o.r w'ks.)	4	10	0
,, ,, (Soda Crystals)	,, (f.o.r w'ks.)	3	0	0
,, Acetate (ex ship)	,,	16	15	0
,, Arseniate, 45%	,,	24	0	0
,, Borate (Borax), Crystals	,,	16	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton (10 ton lots)	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, (10 ton lots)	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, (10 ton lots)	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, (10 ton lots)	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, (10 ton lots)	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	0	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	0	0
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	34	0	0
Tin Crystals	per lb.	0	1	0
,, English Ingots	per ton	167	10	0
Zinc (Spelter)	,,	22	2	6
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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On and after Monday next, the 23rd inst., our Manchester address will be

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CURRENT TOPICS.

THE RAILWAY PROBLEM.

THE position of British railways and the problem of their future working was the subject chosen by Lord Brassey for his Presidential Address at the Autumnal Meeting of the Association of Chambers of Commerce, held at Liverpool on Wednesday last. The pending labour dispute in the railway world has focussed public attention on this question, and other considerations which are familiar to our readers have recently caused railway matters to be much discussed amongst manufacturers and traders generally. It was therefore opportune that the President of such an influential commercial organisation, representing no fewer than a hundred Chambers of Commerce, should select this subject for consideration.

Lord Brassey's address raised several points which will doubtless be debated very seriously in the near future. In his opening passages he alluded to the fact that the latest trade statistics established a record; that while British imports had increased from fifty-nine millions in 1904 to sixty and a half millions in 1906, the exports increased in the same period from eighty-five millions to a hundred and three millions. These imposing figures respecting the movements of trade naturally lead up to the discussion of measures which, as Lord Brassey pointed out, will at no distant date call for consideration. He referred first to the deliberations of the Royal Commission on Canals and Waterways, observing that the inquiry has been wide and exhaustive. Many witnesses have been examined, the Commissioners have visited Ireland and Scotland, and they have made an important tour through France, Belgium, and Germany. The policy of foreign Governments has been studied, and the impression apparently received by the Commissioners is that on the Continent public money has been spent with an unstinting hand on canals or the canalisation of rivers. The results of this expenditure, said Lord Brassey, have been beneficial to trade and commerce; traffic is free of tolls, and on many routes the volume is enormous. In this country, on the other hand, the conditions are not identical, yet even with us the time may come (he added) when it may be deemed advantageous that some portion of the bulky and less valuable goods now carried on the railways should be handed over to canals along the main routes, adapted for navigation by barges of adequate size, and propelled, necessarily at slow speed, by mechanical means.

This brought Lord Brassey to the consideration of the present position of British railways. He observed that throughout the inquiry by the Royal Commission on Canals the railways have been under review. The managers of the leading lines appeared as witnesses, and they tendered a large body of evidence; as might have been expected, railway men are not favourable to canals. Meanwhile, said

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Lord Brassey, the trader complains. He compares rates on British railways with the charges in Continental countries. It is true that the great advantages which British traders enjoy in respect to prompt delivery are not perhaps sufficiently appreciated; the fact is overlooked that while it is possible to carry goods for long distances at a low cost per ton per mile, it is impossible to carry the same goods at such a low rate for short distances. But these considerations notwithstanding, the President of the Associated Chambers of Commerce admits that in railway management in England competition is carried on to excess. An immense capital is wasted on duplicate lines not called for by the public. The traders and the railway workers complain: the latter say that their wages are too low and their hours too long; while the trader brings the charge that the traffic rates and charges are excessive.

This conclusion, enunciated by the President of such an influential commercial body, may quite conceivably have a marked effect on the future of our railway system. Any Royal Commission appointed by Parliament to consider this problem will be compelled to give great weight to the representations made by such commercial experts as the Council of the Associated Chambers of Commerce, and here Lord Brassey threw out the significant hint that, in his opinion, some measure of State ownership would be the outcome of any such inquiry. He said that if we in this country were taking a new departure to-day, there could hardly be a question as to what Parliament would do. British railway administration, he observed, is honest, able, and actuated by a keen desire to serve the public good—and with this declaration we hardly think that any serious commercial man will quarrel. But in his summing up of the situation Lord Brassey went on to emphasise the fact that the railway companies are hard pressed; that it is difficult to maintain dividends, not excessive in amount; that competition is severe between rival systems; and that we are probably on the eve of a change of policy. In Germany, in Russia, in Belgium, and more recently in Italy, the railways have become the property of the State, the requirements of the public are fully considered, and the results to the Exchequer have been satisfactory.

Having hinted at what, in his opinion, appeared to be the only satisfactory solution of the railway problem, Lord Brassey went on to point out that it is difficult to change a policy to which we in this country have so long adhered. The capital value of British railways may be taken roughly at twice the amount of the National Debt, and to deal equitably with interests so vast would be an operation which would heavily tax even British financial resources. Lord Brassey suggests that State ownership might possibly begin in Ireland, where the financial operation would be on a limited scale. He considers that the savings resulting from unity of management would certainly allow of considerable reductions in rates and tolls. As to administration, he sees no reason to apprehend failure; the postal service, the dockyards, and the Civil Service are highly efficient.

It is clear that Lord Brassey looks with considerable favour on some measure of State ownership, but, as he pertinently points out, the difficulties in the way are enormous. It would appear open to question whether Ireland is a favourable field for such an experiment, since the conditions are far from parallel, and the railway problem is certainly not most acute in that country; but that some wise and far-reaching solution of such a grave problem must at no distant date be reached is not open to question. Cheap and efficient transport is a vital consideration for every industry, and though there is no doubt whatever that the British Government will not embark on any rash or hazardous experiments with the railway system, there is also no doubt whatever that the solution of the problem cannot long be delayed. In the meantime, manufacturers and traders generally will view with concern the development of the labour trouble on the railways, and it is to be hoped that counsels of conciliation will prevail, and that the dislocation of trade which would inevitably result from a general strike of railwaymen will be avoided. As to the solution of the railway problem as a whole, the subject is of national importance, and it should be approached in that spirit of detachment from petty side issues which, more than any other quality, is seldom absent from British statesmanship.

CONSULAR COUNSEL.

The value, or otherwise, to commercial men, of the sheaf of Consular Reports which annually finds its way from the Government printers has been discussed so frequently that we do not propose seriously to reopen the question, but the recommendations to British traders which are included in almost every important report call for passing attention. From the notes on "Trade Openings in Belgium," to be found in Consul-General Hertslet's annual report on Belgian trade, it does not appear that there are many openings for British chemicals in that country, but it is interesting to note his general hints to British traders, though these are by no means new. Consul-General Hertslet considers it practically impossible for a Consular Officer to give general advice to British firms with regard to the best way for them to further their business with the foreign country or town in which he (the Consul) may be stationed. Most individual business houses and traders, he observes, have a separate way of carrying on their affairs, and advice which is given to one person is resented by another, who conducts his business in a different manner. He therefore does not offer advice collectively to British manufacturers and merchants, and in this he is no doubt wise. The Consul refers to the practice of some British firms of obtaining, through the Intelligence Branch of the Board of Trade, or through a Consul, the names of likely buyers of their goods, with whom they communicate, and (he adds) in many cases they thus establish a fair trade. Only in exceptional cases, however, is it taken into consideration that the foreign taste in regard to certain articles is not necessarily the same as the British. For firms in a fairly large way of business there is no better way of making their goods known than by sending travellers to open up the market. British firms, says the Consul, must be prepared to meet the particular inclination of the foreign buyer, and he goes on to emphasise the fact that it is in this way that German firms obtain so large a share of Continental trade. He specially deprecates the idea of "educating the foreigner to British tastes."

In commenting on the fact that comparatively few business men study Consular reports, a writer in the *Glasgow Herald* recently expressed wonder as to what basis many of these same business men have for their complaints that the British Government give too little attention to commercial interests. As a matter of fact, the writer continued, there is not a report issued by the Board of Trade, the Foreign Office, or the Colonial Office, that does not contain the most valuable information on the commerce of the district dealt with. Curiously enough, however, each of these reports bears witness to the lack of

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enterprise or the deliberate outraging of local susceptibilities by British traders. Then follows the familiar instance of a firm sending out to China packages bearing phrases and colours that were absolutely anathema to the mass of the Celestial population.

In the last report of our British Consular representative on the trade of Chinkiang, another and more recent example of short-sighted policy is quoted. The Consul observes in reporting this incident that British firms who are practically interested in the development of China, and whose lines of business demand a special expert knowledge, would do well to keep in touch with an agent or representative possessing the requisite special knowledge, who should be resident at one of the four centres of trade in China—Hong Kong, Shanghai, Tientsin, or Hankow—and who could take up the firm's interests on the spot at short notice. A case recently occurred in which this Consulate had interested leading Chinese in a scheme calculated to develop a portion of the locality and involving the employment of a certain class of machinery. Application was made by the Consulate to the Board of Trade, which notified the British firms interested. All the firms but one contented themselves with despatching catalogues and price lists to Chinkiang; the exception also notified its agent in Shanghai, and he—a Japanese gentleman—paid a special visit to Chinkiang to make inquiries on the spot. After inspecting catalogues, however, the Chinese preferred the goods of another British firm, but required expert explanation; and, after telegraphing to England this Consulate was able to locate the selected firm's correspondent in China—six months after the firm in question had been notified by the Board of Trade of the Chinkiang inquiries!

The Consul adds that a Japanese agent in China is better than none at all, but he adds that the imitative Japanese agent will probably be an ultimate competitor.

INDIAN TRADE IN 1906.

We have already pointed out in these columns the desirability, from the point of view of the chemical manufacturer, of cultivating the Indian trade in chemicals, and in view of the importance of this subject we give below some interesting notes from our Indian correspondent on the trade of the great dependency in 1906. The official Indian year ends in March, and the available figures are of interest.

The importations of merchandise into India during the year under review amounted to Rs.1,083,069,144., as against Rs.1,030,656,602 in the previous year, or an advance of 5%, and the exports of Indian merchandise were valued at Rs.1,730,704,827. as against Rs.1,581,791,642. in 1905, or an increase of 9⅖%.

The importations were from the following countries, in the proportions indicated:—United Kingdom 66⅔%, Germany 5 3/10, Belgium 4, Austria-Hungary 2⅘, Java 2 7/10, Straits Settlements 2⅗, United States 2 3/10, Mauritius 2, Japan 1½, China 1⅖, France 1⅖, Italy 1%. The exports of Indian merchandise were distributed as follows:—United Kingdom 26 9/10%, China 10 3/10, Germany 11, United States 9, Japan 4 1/10, France 6⅘, Belgium 4 1/10, Straits Settlements 3⅘, Ceylon 3 7/10, Italy 3 3/10, Austria-Hungary 3 3/10, Egypt 2⅗%.

Among the imports into India, with their values, were:—Mineral oil, Rs.24,269,000.; copper, Rs.13,931,000.; instruments and scientific apparatus, Rs.11,987,000.; drugs, Rs.7,801,000.; aniline and alizarine dyes, Rs.7,493,000.; chemicals, Rs.6,876,000.; salt, Rs.6,676,000.; matches, Rs.6,313,000.; colours and paints, Rs.5,675,000; earthenware, Rs.3,899,824.; soap, Rs.3,228,156.

Of the total imports of chemicals, bleaching materials represented Rs.339,000; calcium carbide, Rs.113,000; cyanide of potassium, Rs.292,000; disinfectants, Rs.275,000; caustic soda, Rs.703,000; bicarbonate of soda, Rs.428,000; soda (other sorts), Rs.118,000, etc. The year on the whole was notably one of high values in the chemical and drug trades. Drugs were imported to a value of 15⅗% over 1905, which is the largest recorded yearly increase. The remarkable development of the rise in camphor is shown by the fact that whilst the value of the imports was Rs.2,296,000., or an increase of 71¼% over the previous year, the quantity imported was less by 21%. The specific value of imported camphor rose by 16% in 1904, 37% in 1905, and 42% in 1906. At present camphor stands at the highest figure known in thirty years. The quinine trade has been very dull; the lowest price on record being reached. The imports of aniline and alizarine dyes improved from 11,605,784 lbs. to 11,784,144lbs., but the value declined from Rs.7,571,000. to Rs.7,493,000. These figures represent a rise of 1½% in quantity and a fall of 1% in value, the average price per lb. having declined from 10 5/12 annas to 10⅙ annas, or 2½% lower. Bombay continues to be the principal port for dyes, taking about 76%. Imports of aniline increased from 5,308,207 lbs., valued at Rs.4,371,000., to 6,054,249 lbs., and Rs.4,655,000; of alizarine the imports decreased from 6,297,577 lbs., valued at Rs.3,200,000., to 5,732,893 lbs. and Rs.2,838,000. The total value of mineral oils imported represented 8½% more than 1905; of this,80% was kerosene.

There was an increase in the imports, of matches, especially from Japan, which rose to Rs.145,000. Efforts are being made to create an Indian match industry. The imports of soap continue to grow, as likewise colours and paints.

As regards the exports of Indian merchandise, lac was exported to the value of Rs.34,997,740, as against Rs.31,801,161. in 1905; indigo, Rs.7,004,773., as against Rs.5,863,770 in the previous year. Chemicals, drugs, narcotics, and dyeing and tanning materials aggregated Rs.115,489,000., as against Rs.114,484,000., animal bones, Rs.5,520,241. against Rs.4,978,770., horns, Rs.1,691,552., against Rs.1,749,944.; stick and seed lac, Rs.1,286,2424. against Rs.779,613.; mica, Rs.3,824,988., against Rs.2,394,413.; oil cake, manure, etc., Rs.7,599,121., against Rs.6,898,380. Indian metals, manganese ore, etc., Rs.9,149,578. Shellac and button lac, Rs.33,420,265.

The exports of saltpetre increased from 336,429 cwts., valued at Rs.3,850,000., to 353,378 and Rs.4,140,000., whilst borax represented 5,613 cwts., valued at Rs.115,300. As regards indigo, the absolute necessity for standardisation of strength in the product is recognised.

Increased orders for indigo were received from Persia and Japan. The total exported was 35,102 cwts. (against 31,186 cwts. in 1905), of which the United Kingdom took 7,942 cwts., the Continent of Europe 7,063 cwts., Egypt 9,195 cwts., United States 1,258 cwts., Japan 1,600 cwts., and Persia 2,422 cwts. Paraffin wax was shipped to the value of Rs.1,243,000 or 60,209 cwts., and the exports of candles produced from petroleum amounted to 5,095,000 lbs., valued at Rs.1,421,000, or a decline of 15⅕%. The exports of mica have increased 59¾%, and the advance in stick-lac is striking, being an increase of 188% in 1904, 52⅘ in 1905, and 126% in 1906, whilst the specific value rose in those years 5¾%, 9¾%, and 36 7/10% respectively. Lac has risen on account of the electrical activity and the increased demand for high-class varnishes in India. Shellac

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represented 205,461 cwts., and button lac 37,117 cwts. For purposes of exchange, the rupee may be taken at 1s. 4d., and the anna at a penny. Thus, Rs.15.0 equal £1.

NITRATE OF SODA.

The market remains stagnant, but is nominally firm, in the absence of arrivals at ports of call. While consumers take no interest in the article either on the spot or for spring delivery, in speculative circles some business is reported in cargoes as far forward as 1910; the buyers are enterprising, considering the high prices asked by sellers, and the uncertainty as to freights—these latter are not likely to remain at the present low level when the coal "boom" peters out. Nitrate for prompt shipment has sold in Chili down to 8s. 10½d. per quintal, f.o.b., while 9s. 0¾d. is said to have been paid on this side, a somewhat curious circumstance, seeing that all the large importers have their own houses or representatives in Valparaiso and Iquique. Out of 119,000 tons loading for Europe on the 1st inst., only 30,400 tons had cleared up to the 15th, and it is estimated that the month's total will not exceed 75,250 tons. The national holiday in Chili will as usual interfere with work, both at ports and on the "pampa," but 98,000 tons were shipped to Europe in September, 1902, when there were only 340,000 tons of nitrate of soda on the West Coast, whereas the stocks now amount to 560,000 tons; two new shipping ports have since then come into existence, and the selling price was 6s. 4½d. per quintal!

GERMAN CHEMICALS.

The Uerdingen Chemical Works (vormals Weiler ter Meer) are issuing at 130 £50,000. new shares, in order to extend their plant, at present unable to cope with the business offering. The Harburg-Stassfurt Company pays 15% dividend, against 12% last year, and the Concordia Chemical Factories of Leopoldshall 15% on £105,000. capital, against 16% on £60,000. and 8% on £45,000. There are as yet few visible signs of a set-back in Germany's typically prosperous trade.

A meeting of the Potash Syndicate was arranged to take place in Berlin yesterday (Friday) to consider the terms of admission of new members. A serious inrush of water has caused a cessation of work at the mines of the Heldrungen Company, the occurrence, by no means an isolated one, causing some consternation in potash circles.

The Rhenish Steel Works of Duisburg, in the year to June 30, produced 2,492 tons of sulphate of ammonia, against 1,683 tons in the preceding twelvemonth; the output of refined tar was 873 tons, of raw tar 416 tons, and of benzol 408 tons, compared with 768, 2,401, and 509 tons respectively in 1905–6. The Company made a net profit of £238,870., and increases its dividend from 12 to 18%.

THE LABOUR MARKET.—A Memorandum that has been prepared by the Labour Department of the Board of Trade for the *Board of Trade Labour Gazette*, states that employment in August showed on the whole some decline as compared with July. The decline was most marked in the case of shipbuilding, but there was also some falling off in the engineering trades, and a seasonal decline in the printing trades. On the other hand there was a slight improvement in the building trades. As compared with a year ago there was an improvement in all the principal industries except engineering, shipbuilding, printing and bookbinding, in each of which there was some decline. There was a net weekly rise in wages during August of £48,200. per week, which was mainly accounted for by advances to coal miners. In the 273 trade unions, with an aggregate membership of 632,068 workpeople, making returns, 25,458 (or 4.0%) were reported as unemployed at the end of August, 1907, compared with 3.7% at the end of July, 1907, and 3.8% at the end of August, 1906.

CHEMICALS, ETC., IN JAPAN.

FROM the annual report of the British Consul-General on Japanese trade in 1906, it appears that the total import and export trade of Japan during the year amounted to £86,009,190., an increase over the sum for 1905 (£82,694,811.) of £3,314,379., or just above 4%. There was at the same time a very great change in the balance of trade, as shown in the accompanying table:—

Year.	Imports.	Exports.	Total.	Difference between imports and exports.
	£	£	£	£
1906..	42,750,878	43,258,312	86,009,190	– 507,434
1905..	49,871,589	32,823,222	82,694,811	+ 17,048,367
1904..	37,962,576	32,591,216	70,493,792	+ 5,311,360
1903..	32,374,250	29,553,374	61,927,624	+ 2,820,876

The course of trade during 1906 was generally held to be favourable to Japan. For the first time since 1895 the exports exceeded the imports, and though the customs returns take no notice of "invisible imports and exports," the condition of affairs was regarded as facilitating the retention of specie in the country and the expansion of industries. The increased export trade was looked on as an indication of Japanese industrial expansion, and the result of the year's trade was considered encouraging. The money market was easy, there being a boom in everything, especially towards the end of the year.

The decline in imports for 1906 was 14.3%. This decrease was due principally to the restricted demand for some commodities after the conclusion of the war, and also to the large stocks carried over from 1905. The year has ended with favourable prospects of continued demand. The new tariff which came into force on October 1 seemed to make but little difference in the volume of imports. There were no exceptionally heavy entries in anticipation of the new duties—March, April and May showing the largest totals, while though the imports for the whole year declined over £7,000,000. the imports for the last three months were only £102,144. less than the total for the corresponding months in 1905.

The following figures show the imports of chemicals, etc.:—Carbolic acid, £20,119.; alcohol, £18,795.; glycerine, £16,128.; resin, £29,320.; shellac, £14,952.; bicarbonate of soda, £17,924. The most important imports under the heading of "Dyes, colours and paints" were aniline dyes and artificial indigo, which between them accounted for over 65% of the total import of £990,347. Other items were lacquer £32,657., varnish £20,326., alizarine dyes £13,249., vermilion £13,224., and logwood extract £12,930.

The imports under the heading of "Oil and Wax" increased slightly in 1906; the increase was, however, still smaller when compared with the average for 1901-05. Most of the items showed advances, those not included in the annex being principally castor oil (£10,321.), linseed oil (£50,133.), stearine (£22,146.) and mineral colza, while candles, cocoanut oil and olive oil all showed small decreases. The import of kerosene oil was nearly stationary, and indeed showed a decline both on the year 1904 and the average for 1901-05. Though there is a constantly increasing consumption of kerosene this is met by the increased production of the home wells, while the heavy import duty also tends to diminish the import. The Japanese oil production is increasing steadily, some 4,300,000 cases having been produced in 1906 compared with 2,760,000 cases in 1905. Proposals are being made for the import of crude oil (thus avoiding the high duties on refined oil) and the establishment of refineries in the country. Of the oil imported in 1906, 44,510,539 gallons came in cases, while 14,918,469 gallons were tank oil.

The exports of Japan during 1906 advanced to £43,258,312. from £32,823,222. in the previous year, an increase of £10,435,090 or 31.8 per cent. This advance was made up of increases in all the sections of the export trade with the single exception of tobacco; the major part of the advance, however, was contributed by increases of over £4,500,000. in silk, over £1,000,000. in metals, nearly £1,000,000. in beverages and comestibles, over £800,000. in cotton and other tissues, and over £2,000,000. in the miscellaneous section.

(To be continued.)

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INDUSTRIAL POISONING.*

(*Continued from p. 217*).

MIDLAND DIVISION.

THE Superintending Inspector for the Midland Division observes that the figures of industrial poisoning in his district are disquietening. The divisional table shows an increase from 216 cases in 1905 to 285 in 1906. The cases of poisoning by arsenic numbered 3, anthrax 2, and lead poisoning no less than 280.

Arsenic Poisoning.—Some severe cases of much interest developed in North Staffordshire, and were investigated by Mr. Walmsley and Mr. H. R. Rogers. Three men suddenly developed signs of acute poisoning. The men were engaged in recovering copper from a solution containing copper sulphate (by an electrolytic process), when they suddenly became very ill. There was some doubt whether the illness was due to poisoning by copper, lead, or arsenic, though the last seemed most probable. Experiments showed that the copper sulphate solution contained arsenic compounds, and on treating the liquid in a laboratory in exactly the same manner as it had been treated in the factory, it was found that arseniuretted hydrogen was liberated in quantities sufficient to cause the poisoning. Mr. H. R. Rogers made the laboratory test at the Newcastle High School, the laboratory having been placed at our disposal through the courtesy of the head master. Since the date of the poisoning, the method which caused it has not been used, other ways of treating the solution having been adopted which are practically harmless.

Lead Poisoning.—The subject of lead poisoning is the most unsatisfactory one that this divisional report has to deal with. The figures for the last six years show that after falling from 296 cases in 1901 to 248 in 1902, there was a rise in 1903 to 260 cases; in the figures for 1904 there was a reduction again to 229 cases, and the next year, 1905, showed a still more satisfactory reduction, namely, to 209 cases, but in the year under review the prevalence of lead poisoning is so marked that the number of cases numbered no less than 280. It will be seen, therefore, that last year's return was the highest since 1901. The trades mostly responsible for the increase are coach, motor, and perambulator making, earthenware and china making, smelting and refining, tinning and enamelling, white lead making, and miscellaneous manufactures. Mr. Walmsley (Stoke) mentions two fatal cases amongst coach painters, probably due to uncleanliness.

NORTH-EASTERN DIVISION.

Lead Poisoning.—During 1906 3 cases of lead poisoning in paint manufacture were recorded; white lead 36, 3 of which were fatal; red oxide of lead 1; and de-silvering of lead 1.

Mr. Wilson (Newcastle-on-Tyne) reports that the lead works, as in former years, contributed the majority of cases, and they arose almost exclusively in the manufacture of the carbonate. Of the 22 cases reported by one particular firm, 8 referred to men who had contracted poisoning while engaged in the stoves, an operation, when conducted on the old system, by far the most dangerous in the manufacture of white lead. The methods of filling the pans with the liquid carbonate are primitive, and unless very great care is exercised, and constant supervision maintained, the workers splash their overalls to an extraordinary extent. If these garments are not tightly buttoned up to the neck, which frequently happens, lead impregnates their ordinary clothing about the breast, and, drying with the heat of the body, gives rise to slight dust at every movement. Unfortunately these clothes are occasionally all the workers possess, and they, therefore, carry the danger with them into their own homes. The transferring of the bowls to the stove, and the stacking on shelves, all tends to splashing and spilling of the liquid with a clumsy or reckless worker. It follows, therefore, that any system by which the personal handling of the wet carbonate could be avoided is to be encouraged, and the firm having the largest proportion of poisoning cases proposes in the near future to arrange the plant so that the filling and carrying of the bowls, preparatory to stacking, will be much simplified. Further, it is proposed to turn much more of the wet carbonate directly into white lead paint, never drying it at all. It is significant, in this connection, to note that the works in this district which turns all the carbonate directly into paint (mixing it with oil) has had no case of poisoning for two years.

In certain factories it has been customary to allow women to wash the pots as they come from the whitebeds. It was observed, however, that corrosions adhered to these pots, or particles were left inside, and the women were thus exposed, in a minor degree, to lead dust. This being a contravention of Regulation 11, the firms concerned were requested to terminate the practice, and now men do this work. It has been recognised that temperate men, regular in their habits, and careful in sustaining themselves with nourishing food, are far less likley to develop plumbism than irregular living and improperly fed workers. Accordingly, every effort has been made on the part of one firm to gradually collect a staff of steady men, and although this was difficult during the years of great industrial activity on Tyneside, they have been now fairly successful. The irregular and inexperienced workers, I noticed, are very dirty in their work, and frequently present themselves for examination with lips and faces smeared with lead, and the carbonate in a caked form adhering to the moustache.

Mr. Allhusen (Newcastle) says:—Last year analysis of some samples of dust taken from the beams above the melting pots in lead works showed a quite appreciable amount of oxide therein. This year, attracted by the fumes which arise from the opening of the retorts in the distillation of the zinc from argentiferous lead, I collected some dust which had settled on the beams of the distilling room, just above the pots, and found on analysis that whereas, as was to be expected, most of the fume was caused by the oxide of zinc, yet that a quite appreciable quantity of lead was carried (as litharge, most probably) away with the zinc fumes. The sample taken showed 20% of zinc (as ZnO) and 2½% of lead (as PbO). No case of sickness has ever been reported from this part of the works, and the room is clean and well ventilated, with a lowered roof. The men, too, at the instant of uncovering, generally carry cloths in their mouths, in the manner affected by the salt decomposers, which act as tolerably efficient respirators.

Mr. Butler (Huddersfield).—The three lead poisoning cases all arose at one wire factory, where a new plant had been erected for annealing wire by passing it red hot through a shallow pan of molten lead. In passing through, a considerable portion of the lead was converted into the puce oxide, which piled up to a considerable height in the pan, and the workmen were obliged to remove it at intervals. This was done by means of shovels, and a considerable amount of dust was inhaled. A ventilating hood is now provided, the floors are kept wetted, and washing conveniences are provided. At my last visit the firm promised that they would provide an outer gutter to the pan and attach tubes to it so that the oxide would fall away into receptacles at the side automatically.

Binitro Poisoning.—Mr. Butler (Huddersfield).—The most serious kind of industrial poisoning in this district arises from the manufacture of the nitro derivatives of benzine, of which the principal forms are:—Mononitro-benzol, binitro-benzol, binitro-toluol and trinitro-toluol. During the year seven cases of poisoning have come to my knowledge, but there is reason to think that the number actually occurring was much greater.

The manufacture is carried on almost entirely in the open air, and there is very little visible dust in any of the processes.

Binitro-benzol is the product of a further nitration of mononitro-benzol (a liquid formed by a previous nitration of benzine). At one of the works the process is as follows:—The monotitro is agitated with combined sulphuric acid and nitric acid in a closed mixing machine. When nitration is complete the waste acids are run off into side cisterns, and then the material itself which has become binitro is run off hot and fuming by troughs, into a cistern of water, where it is agitated by means of a long wooden hoe in order to form pellets. The pellets are then ladled out into casks and conveyed to another cistern, where they are melted up with carbonate of soda for the purpose of neutralising any waste acids that may be left. The binitro is then syphoned off into trays where it solidifies into a cake, and when cold is broken up into small pieces by means of long handled-chisels, after which it is ready to be packed. Binitro-toluol and trinitro-toluol are made in much the same manner, the latter being a further nitration of the binitro.

Certain precautions have been taken by the firm, such as providing respirators, rubber gloves, soda and milk, washing conveniences, fortnightly inspection by a doctor, and in the toluol department a fan has been fitted for the extraction of dust and vapours. The whole manufacture is primitive, and more automatic working is a desideratum.

Carbonic oxide poisoning.—Mr. Dunolly (Stockton).—Carbonic oxide poisoning is undoubtedly prevalent, but the disablement of the workers is seldom of such a nature as to require the poisoning to be reported under the Act. The workers further appear to avoid bringing their names before the management by reporting illness caused by carbonic oxide poisoning, as

* Special Abstract of the Annual Report of the Chief Inspector of Factories for 1906.

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tending to prove that they are unfit physically for the work they have to perform, but an official of one of the sick clubs in connection with blast furnace workers informed me that nearly 50 slight cases of carbonic oxide poisoning had been brought to his notice between January and August of this year.

The poisoning or "gassing" affects the workers' walk; their speech is impeded and they have difficulty in forming a sentence without frequently repeating the same word; the eyes are restless, and there is a marked tremor of the fingers when extended. I have noted some of these symptoms in a man employed as time-keeper, who had been gassed eight years previously, whilst employed at a blast furnace. Gassing also occurs among men working about internal combustion engines driven by gas from the blast furnaces or from gas producers. Such engines are frequently provided with inspection pits, sunk below the ground level, where any escape of gas from leaky joints accumulates, to the danger of the men engaged in repairs. Producer gas plants have been found erected in small unventilated rooms, no instructions or appliances being provided for dealing with cases of asphyxia. Where these defects have been found the occupiers have been instructed to take the necessary precautions.

Blast furnace gas is now much used for power purposes, by feeding it directly to internal combustion engines, instead of burning the gas, as hitherto, in steam boilers. This development appears to be gaining some favour owing to the increased reliability of such gas engines, due to recent improvements. It may offer greater danger of gassing, but both the workers and the general public have the undoubted advantage of the elimination of all dust from the gas before it can be introduced into the gas engine. In a gas-fired steam boiler the gas enters the furnace in its impure condition at some pressure, and the dust is then thrown into the air by the boiler chimney. But when used in a gas engine the gas is first thoroughly washed and freed of all solid particles.

(To be continued.)

Continental Notes.

IN the *Zeitschrift für Chemische Apparatenkunde* for August 1 there appears a description of a compound centrifugal pump which will give a sufficiently high pressure to deliver feed-water into a steam boiler. This is achieved by having a series of centrifugal pumps all mounted on one axis, and connected up in such a way that each section delivers into the next. It is claimed that the machine possesses an efficiency of 90%, and that under favourable circumstances it is much more economical than the ordinary cylinder pump; it is especially advantageous where electrical power is available at a moderate price.

This issue and the next one contain a paper by M. Parthey on the development of apparatus for the generation of ozone. Descriptions and illustrations are given of those made by Siemens and Halske, Tindal, Marmier, and Otto. The author is of the opinion that as regards technical advantage there is not much to choose between these different types, but those of Siemens and Halske have achieved the greatest practical success, as the difficulties of construction and manipulation have been most completely overcome in them. They all suffer under the disadvantage that the concentration that can be reached is only a very low one; 2 to 3 grammes of ozone per cubic metre of air is the practical limit. For laboratory purposes a greater concentration can of course be attained by the use of oxygen instead of air, but for commercial purposes this would be too expensive. The technical application of ozone has only proceeded very slowly, and the early expectations have not been realised. It was discovered long ago that ozone has a strong germicidal action, and the researches of the Imperial German Department of Public Health demonstrated that the bacteria of diseases such as cholera and typhus are killed by it with absolute certainty when suspended in water. The general opinion now is that the breathing of air containing disease germs is not very dangerous, whereas the drinking of contaminated water is often fatal. Hence it is no longer the custom to attempt to destroy the germs in the air of hospital wards, for instance, whereas the treatment of drinking water with ozone has been applied technically. At Paderborn there is an installation erected by Siemens and Halske, which has been in operation for about five years, for the treatment of a supply from a stream which is not free from contamination. The plant consists of a direct-current machine, an alternating current machine, a fan, nine ozone generators, and the sterilisers. The ozone generators are placed in a dark room in order that it may be seen by the luminosity whether they are working properly. The ozonised air contains 1.7 to 2.2 grammes per cubic foot, and is brought into intimate contact with the water, which flows down a tower filled with coarse gravel. The water is thus completely sterilised, and the taste and smell are improved. In order to get rid of the odour of the ozone, the water is afterwards caused to flow over cascades. The application to other technical purposes has not been so successful, and this is due to the fact that ozone is comparatively expensive, while the same effects can be produced with cheaper materials. Such applications are the bleaching of yarns, the thickening of linseed oil in the manufacture of linoleum, and the bleaching of flour. The odour of the ozone, moreover, is objectionable, especially in the case of the flour. For the treatment of dark oils some success has, however, been attained. In general it may be stated that ozone can only be applied commercially where it is required to remove small quantities of impurities that cannot be attacked by ordinary chemical reagents.

The issues for August and September also contain a paper by A. Dosch on the control of the burning process in boiler furnaces. In order to know with certainty whether the combustion is proceeding satisfactorily in all respects it is necessary to have means for determining the draft or low pressure, which draws the air through the fuel and the combustion gases through the flues, also the temperature either in the firebox or the gas channels, or, best of all, of the gases at the end of the furnace, where the combustion is complete. Finally, it is necessary to ascertain the composition of the flue gases. As regards the first of these items, it is not sufficient to determine the pressure at one point only; what is required is the pressure at two points, such as the damper and the firebox, or the pressure at one of them and the difference of pressure between this and some other point. In the paper a number of ingenious appliances are described for this purpose. Some of them are provided with automatic registering apparatus. The temperature at the point where combustion is complete does not exceed 500° C., and is usually not more than half of this value, consequently it can be measured by means of a mercury thermometer, and no special pyrometers are required. For the determination of the composition of the gases the weight of the gas gives a ready criterion, as its variations are caused almost entirely by differences in the percentage of carbon dioxide. For the determination of the specific gravity of the gases, use may be made of a very simple instrument, consisting of a vertical tube, to the lower end of which a sensitive manometer is connected. By means of a pump the gases are drawn out of the flue and caused to ascend this tube. The gases, being heavier than the outside air, produce a pressure at the base of the long vertical tube, and the measurement of this pressure affords a criterion of the composition of the gas, and consequently of the nature of the combustion process.

POST OFFICE STATISTICS.—The increase in the volume of the Post Office business during the year 1906-7 was considerable, as the following figures, from the report of the Postmaster-General, show. The number of postal packets delivered in the United Kingdom during 1906-7 was 4,862,920,000, an increase of 3.8% over the preceding year. The average number of letters for each person in the Kingdom was 111.1. A striking feature of the report is the enormous number of undelivered packets, either unaddressed or articles found loose. These amounted to 29,766,394, and contained in cash, notes, cheques, etc., the total sum of £714,461. 12s. The number of parcels sent to and received from places abroad during the year was as follows:—Despatched, 2,575,891; received, 1,471,785. The combined total number of outward and homeward parcels shows a net increase over that of the previous year amounting to 142,638, or about 3½%. The total number of foreign and colonial parcels insured, namely 317,255, as against 303,946 in the previous year, shows an increase of about 4½%. According to the Board of Trade returns the value of the goods exported and imported by parcel post during 1906-7 was:—Exports, £4,638,917.; imports, £1,535,661.; total, £6,174,578. The increase in 1906-7 as compared with 1905-6 was:—Exports, £463,256.; imports, £5,293.; total, £468,549. The number of postal orders issued during the year was 102,247,000, and their value amounted to £40,878,000. These figures show increases of 5.1 and 5.4% respectively over those for 1905-6. The value of the postage stamps affixed was £218,000. The commission on these orders yielded the sum of £415,041., or £13,821. less than in the previous year. The decrease is due to the reductions in poundage which came into force in July, 1906.

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THE CHINESE CAMPHOR INDUSTRY.

A BRITISH *Consular Report* states that the quantity of camphor exported from Foochow increased in 1906 to a degree at once noticeable and unprecedented. The 4,805 cwts. of 1905 rose to 13,535 cwts. in 1906. The report goes on, however, to observe that to those interested in the trade this spasmodic expansion is like the dying flicker of a candle, and that the exploitation of camphor in Fukien is an industry which will shortly perish of inanition.

The camphor industry is handicapped by inherent difficulties of manufacture—difficulties, moreover, for which it appears impossible to find a remedy. Similar intractibility has long puzzled the manufacturers of rhea, and the ingenuity of inventors has been stimulated by the offer of large rewards by the Government to any genius who should devise a satisfactory method of treating that fibre. Inventors might, with advantage, turn their attention to the camphor problem. Most people know that the only way in which camphor can be extracted from the tree is by a process that might be termed "destructive distillation." To obtain the drug the tree must be felled and its timber boiled. The camphor can only be extracted by boiling, therefore the tree must die after the extraction has been made. Chinese camphor comes chiefly from Formosa, and forms the only other source of supply for European markets. It is a product of *Cinnamomum Camphora*, one of the *Lauraceæ*, and constitutes the bulk of the world's supply. Since Formosa passed out of the hands of China, the Japanese have expended much thought and pains on the cultivation, and have made many experiments with a view to ascertaining whether it is possible to obtain the drug without destroying the tree. At one time it was hoped that camphor might be distilled in sufficient quantity from the twigs and leaves without destruction of the trunk, but this hope has been proved fallacious, and those investigating the question have reluctantly had to conclude that the only possible method of preserving the species is to plant fresh trees in place of those sacrificed. To make this device successful, however, half-a-century's patience is required, for *Cinnamomum Camphora* is a tree of slow growth, and is not commercially productive till it has attained the age of forty years. The cultivation of the camphor tree is, therefore, a business in which it is hopeless to look for quick returns for one's outlay. It is several years since the Fukien authorities had their attention turned to camphor as a promising source of provincial revenue. Since this discovery they have made repeated attempts to create a Government monopoly of its production. But every such attempt has been vigorously resisted by the treaty Powers.

It is evident from the customs returns that the manufacture of camphor is being prosecuted energetically in the province, which is equivalent to saying that camphor trees are being increasingly destroyed. As the number of these trees in this and the neighbouring province of Chékiang is strictly limited, the extirpation of *Cinnamomum Camphora* in Fukien is only a question of time, and a very short time too. It is true that the provincial Government is alive to the advisability of planting at least one sapling for every adult tree cut down; indeed, they require that renovation shall take place at the rate of five for one. But, as before mentioned, the camphor tree takes a long time to arrive at maturity, and the authorities are legislating for a very distant future. Besides, it is said of the existing trees that a considerable number do not produce camphor. Some theorists assert that, like the cocoanut palm, *Cinnamomum Camphora* grows to perfection only close to the sea. Others, that camphor trees are male and female, and that crystals of the desired quality are found in the male only. This theory is, however, scientifically inexact, since the flower of *Cinnamomum* is polygamous. However this may be, it is obvious that the jump from 4,482 cwts. in 1905 to 13,535 cwts. in 1906 bodes ill for the survival of the industry, and that the days when camphor will continue to form one of the Foochow exports are numbered.

For this regrettable state of things there appears to be only one possible remedy, and that is systematic reafforestation on a definite plan. Let the authorities utilise what stock in the way of adult camphor trees they have by cutting trees down and boiling the wood, so as to make as much money as they can. In any case that is probably what they will do, whatever advice may be tendered to them, and fortunately the survival of old trees is not essential as an encouragement to their youthful successors. But the Government should simultaneously establish at certain suitable points camphor tree reservations, nurseries of young trees, which are to be strictly protected from the woodman's axe for, say, 50 years. By some such means Fukien might again become a camphor-producing province towards the end of the century. It would also be useful to ascertain whether it is a fact that certain camphor trees produce the drug and others of an apparently kindred species do not, and what the reason of the difference is. For, of course, it is essential that the *Cinnamomum* to be cultivated in the proposed nurseries shall be of the right sort. The Chinese cannot distinguish by mere ocular inspection the useful from the useless, and only the experimental boiling of chips enables them to discriminate.

Export of camphor during the past five years :—

Year.	Quantity. Cwts.	Value. £
1902	264	1,460
1903	1,362	8,287
1904	1,421	10,084
1905	4,805	43,039
1906	13,535	185,852

Prices ruled from 127 to 166 dol. per picul (first cost), but have been very irregular owing to Chinese shippers competing with each other. Complaints have been made of the damp nature of much of the cargo, which is due to hasty shipment, the Chinese not having facilities or inclination to dry the cargo. Most of the camphor goes to Hong-Kong for distribution, chiefly for London, the Continent and India. The season saw a large increase of shipments direct to London.

The export of camphor oil (shown below) began in 1903, and has been steadily increasing in volume :—

Year.	Quantity. Cwts.	Value. £
1903	624	993
1904	744	1,380
1905	349	600
1906	3,796	8,344

Correspondence.

*** *We do not hold ourselves responsible for the opinions expressed by our correspondents.*

CASEIN.

(*To the Editor of the Chemical Trade Journal.*)

Sir,—As subscribers of your *Journal* we find an inquiry respecting Casein in the columns of your issue for August 31st, and as we are large dealers in this article we should feel obliged if you would hand over our address to "Liverpool Inquirer."

Yours truly,

Brüggehaus, Hamburg, 16th September, 1907. LEHMANN AND VOSS.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

W. J.—Corrected M.S. duly received.

C. W. C.—Matter and block duly to hand.

W. G. W.—M.S. duly to hand. We are considering this.

J. J. G. AND S.—Thanks for letter. We are testing the apparatus.

M. N.—Letter duly received, and we are glad to note the explanation.

G. L. Co.—We note contents of your letter of the 17th inst. We have this article in hand.

J. H. F. AND Co.—We are looking into this matter, and will write you in the course of a post or two.

W. H. B. AND Co.—We shall publish a report of this Exhibition, and will include the plant you mention.

C. F. A. F.—You will find two letters on this subject in our last issue. We think these will give you the information desired.

D. G. U. S.-S.-A. V. R.—We are referring to the source of the paragraph, and, if possible, will send you a copy of the paper.

CHANGE OF ADDRESS.—From a notice on another page, our North-country readers and clients will see that from Monday next, the 23rd inst., our Manchester address will be Barton House, 66, Deansgate.

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Analytical Notes.

THE INFLUENCE OF IRON IN COPPER ELECTROLYSIS.

By E. L. Larison.*

The metal most frequently associated with copper is iron, and the separation of these two is the commonest which the analyst must make. Qualitatively the separation presents no difficulties by electrolysis; that is, in depositing copper by an electric current there is no danger of contamination by iron, and the separation is complete. An examination and comparison of current densities, voltages, and time required for the deposition of a given quantity of copper in the presence of varying amounts of iron, shows that quantitatively its influence is a considerable matter.

The following results show the retardation of varying amounts of iron. The materials used were $CuSO_4—5H_2O$ and $FeSO_4—7H_2O$. The iron was oxidised by nitric acid in each case, and after neutralisation with NH_4OH, 2 c.c. each nitric and sulphuric acids were added.

No.	$CuSO_4$ Grammes.	$FeSO_4$ Grammes.	Amp.	V.	Time, Minutes.	Cu, Grammes.
(1)	0.5	..	0 7	3.1-3.5	15	0.0870
(2)	0.5	0.25	0.8	3.3	15	0.0822
(3)	0.5	0 50	0 75-0.8	2.9-3.0	15	0.0766

The following on 1-gramme samples of two grades of matte and a heavy sulphide ore:—

No.	Material.	Fe, per cent.	Cu, per cent.	Amp.	V.	Time, Minutes.
(1)	Matte.	25.23	47 07	1.65	3 0	100
(2)	Matte.	46.38	19.65	1.70	3 2	85
(3)	Ore.	33.43	2.45	1.35	3 5	54

These latter results were obtained with rather high current density and using a stirrer. They show the effect of high iron percentages in practical daily determinations. It is striking to note that in No. 1 0.4707 gramme Cu was deposited in a little less than double the time required for about 1/20 of that amount in No. 3.

It is usual and almost essential to effect decomposition, and solution of copper, by means of nitric acid. The iron present will always exist then as a ferric salt when the solution is put on the battery. The following results, obtained with salts, show quite clearly that it is iron in the ferric state that retards the operation.

No. 1 contained no iron. No. 2 contained iron in the ferrous condition. In No. 3 the iron was oxidised to the ferric state by nitric acid. After making neutral with ammonia, 2 c.c. each nitric and sulphuric acids was added to have conditions the same as in practice. This small amount of nitric acid added to a cold solution of volume 200 c.c. can exercise scarcely any oxidising action.

No.	$CuSO_4$, Grammes.	$FeSO_4$, Grammes.	Amp.	V.	Time, Minutes.
(1)	1	..	1.3	3.5	60
(2)	1	1	1.3	3.1	65
(3)	1	1	1.3	2.9	90

The current apparently must reduce a certain amount of the ferric iron to the ferrous condition before all the copper can be deposited. A solution going on the battery usually contains at the start $CuSO_4$, $(Fe)_2(SO_4)_3$, H_2O, H_2SO_4, HNO_3 and possibly small amounts of other salts which can usually be neglected.

At the cathode copper is deposited and hydrogen set free. The solution is very ready to use hydrogen, however, and few bubbles of it can be seen. It probably reacts mostly with the ferric sulphate and slightly with the nitric acid. Ferric sulphate is reduced to ferrous

$$Fe_2(SO_4)_3 + 2H = 2FeSO_4 + H_2SO_4.$$

Nitric acid is reduced to ammonia, which is immediately neutralised by the excess of nitric and sulphuric acids.

$$HNO_3 + 8H = NH_4OH + 2H_2O.$$

In time this reaction may proceed so far as to make the solution alkaline. Hydrogen bubbles also appear in increasing numbers as the reduction proceeds.

* In the *Engineering and Mining Journal* (New York).

At the anode, in a solution like the above, oxygen is given off freely from the start. It is due both to a decomposition of water by the current, and by the SO_4 ions set free in the breaking up of $CuSO_4$. Very often the anode is slightly covered with manganese or lead oxides.

The process of electrolysis exercises in the main a reducing influence on an electrolyte such as the above. Further reduction, and probably the retardation of the deposition of copper, comes about through some such reaction as the following:

$$Cu + Fe_2(SO_4)_3 = CuSO_4 \times 2FeSO_4.$$

That is, copper already deposited or on the point of being deposited is attacked by the ferric sulphate and dissolved, thereby also reducing the ferric to ferrous sulphate. When the process has gone on for a time, the electrolyte becomes so dilute with respect to the ferric sulphate that the last of the copper is able to keep its place upon the cathode. This accounts for the difficulty of, and comparatively great time necessary for, the removal of the last few milligrams of copper from a solution high in iron. When using a stirrer and high currents, a very small reduction in the current density is quickly followed by the re-solution of much of the deposited copper. It seems as if the copper is able to keep its place on the cathode only with a certain electrical or reducing tension.

A frequent occurrence with solutions high in iron is the formation of a "brown ring" similar to the characteristic test for nitric acid and nitrates. This indicates re-oxidation of the ferrous salt by the nitric acid, and usually means a slow deposition of copper. If the solution be stirred after this brown ring appears, a large part of the deposited copper will be quickly dissolved.

In order to determine the extent of reduction, whether there is any uniformity about it, and the effect of stirring, the following figures were obtained. The solution in each case contained 2 c.c. each nitric and sulphuric acids, and the volume was 200 c.c. The amount of iron reduced was determined by titration with permanganate, after all copper was deposited.

Solution Stirred.

No.	Material.	Fe, per cent.	Fe, Red.	Fe, Rem.	Amp.	V.	Time, Minutes.
(1)	Matte.	25.23	19 39	5.84	1.65	3.0	100
(2)	Matte.	46.38	40 13	6.25	1.70	3 2	85
(3)	Ore.	33.43	26.62	6.81	1.35	3.5	54
(4)	0.2g. Fe.		0 15g.	0.05g.	0 1	2.6	100

Solution Stationary.

No.	Material.	Fe, per cent.	Fe, Red.	Fe, Rem.	Amp.	V.	Time.
(1)	Matte.	25.23	16.10	9 13	0 3	2.4	13 hr.
(2)	Matte.	46.38	37.5	8 88	0.3	2.5	10 45m.
(3)	Ore.	33.43	23.49	9.94	0.3	2 5	5 45
(4)	0.2g Fe.		0.057g	0.113g	0.1	2.5	100

In each of these cases only a small part of the iron is not reduced. There seems to be a fairly uniform amount remaining too, at least, in each group taken separately. In the stirred solutions, from 5 to 6% of the iron remains in the ferric state, while if they are left stationary from 9 to 10% remains. This reduction cannot be considered as merely incidental, because of the very obvious retardation of copper deposition, also because of the uniformity of the reduction. It is to be expected that it would have to proceed farther in the stirred solution for the reason that a solvent is always more effective if circulated.

Circulation of the solution not only allows the use of higher current densities and thereby more rapid work, but it gives the current greater efficiency, as the above results show. Less ampere-hours are necessary to deposit a given amount of copper if a solution is stirred than if it is stationary. This is due not only to the fact that the solution is kept uniform and the copper deposits more rapidly, but also the reducing effect on the iron is much greater, and consequently the dissolving power of the solution is decreased much sooner. The retardation when using a stirrer, while distinctly noticeable, is not so important as when the solution is stationary. A very rapid method of reducing iron before applying the current would save time. The ordinary methods of reduction all have objections or take too much time to be of advantage.

The influences of iron in copper electrolysis may be summed up as follows:—

(1.) High percentages of iron in the ferric condition materially retard copper deposition. Ferrous salts have little or no effect.

(2.) The effect of the electric current in the usual solution is to reduce ferric salts to ferrous. This reduction must proceed

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to a certain point before all the copper will remain on the cathode. This point is about the same whatever be the iron and copper percentages, but it varies some as the solution is circulated or stationary.

(3.) Rapid circulation of the solution by a stirrer permits the use of high current densities without sponging, thereby making deposition faster. The current also is more efficient for both depositing copper and reducing iron.

THE VOLUMETRIC ESTIMATION OF ZINC.

By A. R. THORNEWELL.

The disadvantages of the standard "sodium sulphide" methods for the volumetric determination of zinc lie chiefly in their uncertain end-reactions; in the "ferrocyanide" method, temperature and the quantity of acid present make the end, under certain conditions especially, variable.

In the method suggested herein, the end-reaction is quite sharp, and zinc is not used in standardising the solutions employed. Its principal disadvantage is having to wait for the zinc sulphide precipitate to settle. The method is based on the following reactions:—

(1.) $2NaOH + H_2S = Na_2S + 2H_2O$.
(2.) $ZnSO_4 + Na_2S = ZnS + Na_2SO_4$.
(3.) $Na_2S + H_2SO_4 = Na_2SO_4 + H_2S$.

Normal soda solution is saturated with sulphuretted hydrogen, the zinc precipitated with this solution, and the excess of soda titrated. It can be looked upon as NaOH and not Na_2S, as the sulphide is only a means to an end, and acts under the condition of the experiment as an alkali.

Method.

Sufficient of the sample is taken to produce 200 c.c. of solution containing about 0.00327 gramme Zn per c.c. The solution must be neutral and free from other bodies precipitable as sulphides under similar conditions. Now take 25 c.c. of normal soda, or any other quantity that will give an excess, saturate with sulphuretted hydrogen, and add to the zinc solution. Shake, make up to 250 c.c. with water when cold. Let this stand in a warm place for the pricipitate to settle, pour off the supernatant liquor into a Squibb's separator preferably on account of the wide hole in the tap; allow to stand, draw off the precipitate by the tap, cool, and pour off samples for titration into 25 c.c. measuring flasks. As many samples as will be required should be poured off at once; otherwise there is great danger of stirring up any residual precipitate. This is the most troublesome part of the operation, but by pursuing this practice it is easily overcome. The samples are now turned into conical flasks, and 25 c.c. decinormal sulphuric acid run into each. They are now boiled free from sulphuretted hydrogen, cooled, and the excess of acid titrated with decinormal soda, using methyl orange as the indicator.

Every 25 c.c. of sample taken contains 2.5 c.c. normal NaOH, and equals 25 c.c. decinormal NaOH. The excess of decinormal H_2SO_4 deducted from the total H_2SO_4 used, gives the amount of decinormal H_2SO_4 required to neutralise the excess of NaOH originally added; therefore this H_2SO_4 as c.c. of decinormal deducted from 25 gives the amount of normal NaOH stated as decinormal used in precipitating the zinc in 25 c.c. of solution, and equals one-tenth of the sample taken. One c.c. decinormal NaOH = 0.00327 gramme zinc. The calculation may also be stated as follows:—

$$x = (a + b - c) \times 0.0327$$

where x = grammes of Zn in amount of total sample taken;
a = c.c. N/1 NaOH used;
b = c.c. N/10 NaOH used in titrating excess of N/10 H_2SO_4 used;
c = c.c. N/10 H_2SO_4 used.

Example: a = 28.1 c.c. b = 16.69 c.c. c = 24.875 c.c.
$x = 28.1 + 16.69 - 24.875 \times 0.327 = 0.6512$ gramme of zinc.

The Chemist and Druggist.

PRESERVATIVES IN MILK.—On Wednesday week, at Yarmouth, several milk dealers were fined 40s. and costs for selling adulterated milk. Two others were ordered to pay the full penalty, £20, and costs, or undergo two months' imprisonment. Samples of the milk sold by these two dairymen contained a large quantity of formaldehyde, which the Medical Officer of Health described as a most irritant poison and the worst of all preservatives.

IMPORTS OF METALS AND MINERALS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of metals and minerals imported during the month of August, 1907, as compared with August, 1906:—

ARTICLES.	QUANTITIES. Month of August		VALUE. Month of August.	
	1907.	1906.	1907.	1906.
COPPER (regulus and precipitate):			£	£
From Germany ..Tons	8	58	403	1,880
„ Portugal .. „	96	5	4,310	46
„ Spain .... „	2,572	2,699	222,282	171,653
„ U.S.A. .... „	—	635	—	26,709
„ Peru .... „	505	115	21,304	3,310
„ Chile .... „	1,251	575	41,005	18,899
„ Other Countries . „	2,43	3,389	99,381	113,847
Total ... „	6,965	7,476	389,245	336,344
COPPER ORE:				
From Spain ....Tons	1,065	298	5,989	2,682
„ U.S.A. .... „	22	1	1,000	15
„ Chile .... „	4,373	4,590	58,706	46,215
„ Cape of G. Hope .... „	—	1,786	—	32,090
„ Australia .. „	253	170	3,997	2,795
„ Newfoundland .... „	—	—	—	—
„ Other Countries . „	3,110	2,094	41,162	28,688
Total .. „	8,803	9,039	110,854	113,485
PYRITES of Iron and Copper .....Tons	61,930	54,572	94,207	95,270
*SILVER ORE .. Value £.	—	—	225,253	177,588
TIN ORE:				
From S.America, Tons	2,320	1,646	202,435	132,487
„ Other Countries . „	388	251	16,959	11,139
Total .. „	2,708	1,897	219,394	143,626
LEAD (pig and sheet):				
From Germany ..Tons	—	1,205	—	20,200
„ Spain .... „	7,516	8,772	147,724	143,287
„ Greece .... „	—	492	—	8,241
„ U.S.A. .... „	3,161	1,622	64,573	26,797
„ Australia .. „	4,510	4,628	88,501	75,207
„ Other Countries . „	3,649	70	51,414	1,263
Total .. „	17,860	16,789	352,212	275,000
QUICKSILVER .....Lbs.	56,250	37,500	4,925	3,500
TIN, in blocks, ingots, bars, or slabs:				
†From Straits Settlements ....Tons	3,365	2,736	586,645	493,839
„ Australia .. „	813	459	139,434	81,266
„ Other Countries . „	167	334	27,204	55,151
Total .. „	4,345	3,529	753,283	630,196
ZINC, crude, in cakesTons	6,490	7,523	156,731	189,175

* Silver Ore includes the value of the Silver in imported Argentiferous Ores and Metals. † Including Federated Malay States.

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THE LATE DR. DUPRÉ.

THE current number of the *Analyst* contains some interesting notes on the career of the late Dr. August Dupré, F.R.S., from which we extract the following.

When, in 1874, the shortcomings of the Adulteration Act of 1872 led to the appointment of a Parliamentary Committee, the few analysts that held office under that Act felt that the time had come to guard their and the public interests by combining together and forming a society. Food analysis had until then to some extent been in the hands of amateurs, devoid of adequate training and knowledge, and complaints regarding the ability and mode of procedure of Public Analysts were not unknown. Dupré, who at that time had previously been engaged in the study of the chemistry of wine (papers of his having been published in the *Chemical Society's Journal* of 1867 on the acid and sugar present in grapes during the progress of ripening, on the estimation of compound ethers in wine, on the effects produced by the addition of plaster of Paris to must, etc.), and who had just published, in conjunction with Dr. Thudichum, a most comprehensive book on wine, and was already at that time a prominent and honoured member of our profession, was induced to join in the movement, to which the weight of his name and position greatly helped to give solidity and importance. The early days of the Society of Public Analysts were full of stress and dissension, and it was greatly due to Dupré that the young society was kept alive.

He contributed a stream of papers to its proceedings which, like a great deal of his other work, have in time rather increased in importance than—as is the natural fate of a great deal of chemical work—gradually to lose in significance. Thus, his paper on the "Examination of Whisky and other Spirits for Fusel Oil," with which No. 1 of vol. i. of the *Analyst* opened, showed that amyl-alcohol could be quantitatively oxidised to valerianic acid and thus estimated, led the way to all subsequent work on this matter. His contributions towards the analysis of butter-fat, in the same volume of the *Analyst*, laid the foundation of the alkalimetric estimation of glycerides, as he had previously laid that of other esters in a similar way. We owe to him the method for the estimation of alum in flour and bread, which is still in use. He was foremost in giving the now orthodox modes of water analysis their present form, and contributed to the analytical methods of the examination of alkaloidal and other drugs. In conjunction with Dr. Bence-Jones, he was the first to observe the formation of alkaloidal substances by the decomposition of animal matters. The bodies which we now call "ptomaines" he termed "animal quinine." With Dr. Odling, he discovered the almost universal presence of copper in vegetable and animal materials.

His scientific mode of thought, openness of character, and directness of speech, as well as his fine physique, made him the centre for many years of the earlier meetings of the Society of Public Analysts. As its President in 1877 and 1878, he was never tired in stimulating the younger members towards scientific exertions, and many of the papers which were contributed were directly due to his suggestions.

When the Institute of Chemistry was founded, against the opposition of some of the members of the Society of Public Analysts, Dupré threw his energy into the movement, and he took an active part in the often heated discussions from which the present beneficent policy of the Institute ultimately emerged. Here and at the Chemical Society's meetings he was for many years a regular attendant, and whenever he spoke he was impressive by knowledge and common-sense. For about ten years his visits at meetings were rare, a slight paralytic stroke rendering speech difficult for him. During the last two years before his death he was ailing, and his final illness was long and painful.

He was born in Mainz on September 6, 1835, the second son of J. F. Dupré, his mother dying a few days after his birth. His father, who was a descendant of a Huguenot family, came to England in 1843, and lived at Warrington until 1845, when he returned to Germany, settling at Giessen. There August and his brother Fritz went to school till 1850, and thence to the technical school at Darmstadt until 1852. Both brothers studied chemistry at Giessen under Liebig and Will, and at Heidelberg under Bunsen and Kirchhof. They came to London in 1855, after A. Dupré had taken his Ph.D. degree in Heidelberg. He became assistant to Dr. Odling, who then had a laboratory in Kennington, and thence went to Guy's Hospital. In 1863 he succeeded his brother as lecturer of chemistry to the Westminster Hospital Medical School; this post he resigned about ten years ago. Since then he practised as consultant at Howick Place, Victoria-Street, Westminster, his two sons assisting him. In 1871 he was appointed Chemical Referee to the Medical Department of the Local Government Board; in 1873 Public Analyst for Westminster, and also Chemical Adviser to the Explosives Department of the Home Office; in 1888 a member of the War Office Committee on Explosives, and in 1900 a member of the Ordnance Research Board.

A great deal of his energy was spent in connection with his appointment to the War Office Committee. He carried out innumerable investigations on various forms of explosives, and to him is almost solely due the "heat test," which of late has been much discussed and criticised, but which was undoubtedly instrumental in raising the standard of purity and stability of nitro-explosives throughout the world, and which has rendered their manufacture extraordinarily safe. Thousands of new mixtures of explosive substances passed through his hands, and none were licensed for manufacture or import unless he had satisfied himself that they were of sufficient stability and safety. The annual reports of H.M. Inspectors of Explosives bear lasting testimony to the immense labour, knowledge, and care which he brought to bear upon this part of his life's work.

During the Fenian outrages in 1882-83, explosions being caused or attempted in many parts of London and the country, he rendered enormous public service in their investigation.

The Government seemed to be duly grateful to Dr. Dupré, as appears from the report of Parliamentary proceedings in the *Times*, April 17, 1883: "Mr. Salt asked the Home Secretary if he would take into consideration whether some special and adequate acknowledgment could be given to the officers who were engaged in the discovery or removal of the dynamite and other explosive materials recently captured." Sir William Harcourt said: "I do not wish to lose any opportunity of bearing my testimony to the courage and skill exhibited by Major Majendie, the Inspector of Explosives; by Dr. Dupré, the eminent chemist; and by other gentlemen to whom the hon. member has alluded; but I would ask that the House, feeling that the Government are not insensible of these things, should leave the matter to the executive." It is a matter not redounding to the honour of the executive that they utterly forgot this promise, and that the high and numerous public services of Dupré to the State were left unrewarded. The inborn modesty, the utter absence of the quality known as "push," his almost childlike unworldliness, left him unnoticed where so many less noble natures were exalted.

Dupré was frequently consulted by the Treasury, the Board of Trade, the Wreck Commissioners Court, and the late Metropolitan Board of Works. He made extensive investigations into the condition of the River Thames, devised in this connection an admirable method for the determination of dissolved oxygen in water, advised on sewage treatment, and to him is due the inception of the bacterial treatment of sewage which is about to overthrow all previous empirical modes of sewage disposal. In 1885 he reported that "the destruction of organic matters discharged into the river in the sewage is, practically, wholly accomplished by minute organisms. These organisms, however, can only do their work in the presence of oxygen, and the more of that you supply, the more rapid the destruction. If the river could only be kept aerated, no harm would result from the introduction of the sewage."

He was made a Fellow of the Royal Society in 1875. His contributions to scientific literature, as contained in the *Philosophical Transactions*, *Proceedings of the Royal Society*, *The Journal of the Chemical Society*, *The Analyst*, and the *Journal of the Society of Chemical Industry*, would form a very long list, but almost the major part of his work is recorded in Blue-books and Government Inspectors' Reports, which are not ordinarily before the public eye, and whence, it is to be hoped, they may some time be collected by loving hands.

Obituary.—The death took place at Swanage, on Saturday last, of *Professor L. F. Vernon Harcourt*, the well-known civil engineer. Professor Harcourt was educated at Harrow and Balliol College, Oxford, where he took a first-class in mathematics and in natural science. From 1866 to 1870 he was engaged as resident engineer on the South-west India Dock works. In 1882 he became professor of civil engineering at University College, London. He acted as British member of the jury for civil engineering at the Paris Exhibition of 1900 and at the St. Louis Exhibition of 1904. He was the author of a number of papers and books on civil engineering, and was regarded as an authority on canals.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Measuring and Recording Salinity of Liquids in Motion C. W. V. Biggs and W. P. Digby. 19,598. September 2.

Treating Wurtzilite or Elaterite. M. Stine. 19,629. September 2.

Solidifying Wax, Paraffin, etc. J. Bateman. 19,630. September 2.

Treatment of Amylaceous Materials. A. Boidin. 19,633. September 2.

Smoke Consumers. N. J. Duguette 19,694 September 3

Grading or Classifying Pulverulent or Comminuted Materials. A. R. Robertson. 19,736. September 4.

Air Compressors. C. Neumann 19,765. September 4.

Dyestuffs. R. B. Ransford 19,807. September 4.

Ortho-oxymonoazo Dyestuffs. Chemische Fabrik Griesheim-Electron. 19,810. September 4

Determining and Recording the Composition of Boiling Mixtures of Liquids. The British Oxygen Co. Limited. 19,813. September 4

Feed-water Heaters. W. Mycock. 19,846. September 5.

Condensing Antimony Oxides. A. J. Boult. 19,867. September 5

Fuel Gas from Mineral Carbonates and Organic Substances. C. H. Rider. 19,873. September 5

Electro-Magnetic Separators. W. L. Spence. 19,916. September 6

Oxalates from Formates. Electrochem Werke G. M. B. H. 19,943. September 6.

Separating Sulphurous Acid from Combustion Gases. J. Babé and H. Pape. 19,973. September 6

Treatment of Ammonia Liquors before and after Distillation. J. Grossmann. 19,988. September 9.

Explosive. V. Ansay and C. Naméche. 19,993. September 7.

Apparatus for Condensing Evaporating, Concentrating, Distilling, etc. J. Dunn and F. M. Dunn. 20,003. September 7

Para-aminophenols. A. Zimmermann. 20,050 September 7.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Automatically Analysing Mixed Gases. Hubbard. 19,513.

Obtaining Glue and Gelatine from Glue Materials. Schneider. 19,848.

Producer-gas Generators. Dowson. 21,258.

Apparatus for Measuring Fluids. Johnson. 23,966.

Electrolytic Manufacture of Metal Wire, etc. Cowper-Coles. 27,099.

1907.

Purifying Lubricating Oil. Steimel. 1,450.

Cement Manufacture. Collos Portland Cement Co. 1,647.

Sulphide Colours. Ransford. 3,279.

Hydrated Alumino-Silicates or Artificial Zeolites. Gans. 8,232.

Explosives. Cornaro. 9,170.

Gas Generators. Bormann. 10,226.

Crushing Machines. Sturtevant, Sturtevant, and Sturtevant Mill Co. 13,192.

Colouring Matters. Johnson. 17,610.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements Relating to the Manufacture of Explosives. C. Duttenhofer, Bergedorf, near Hamburg, Germany. British Patent, 19,408. August 30, 1906.

This invention has for its object improvements in the process described in Specification No. 24,782 of 1904. In this specification is described a process for avoiding muzzle flames when firing nitrocellulose-nitroglycerine powder, by the addition of small quantities of neutral substances such as vaseline or the like and alkali bicarbonate to these powders. The inventor has found, however that salts readily soluble in water, such as the alkali bicarbonates mentioned in the prior specification when stored in humid places, casemates, ships' holds and also in the tropics, have proved to be very hygroscopic, and owing to the absorption of water the powders alter somewhat. It therefore became necessary to endeavour to find bodies which are less hygroscopic, and which, if possible, are partly soluble in the solvents such as acetone, etc., used in the manufacture of the powder, and this in order that they may become better distributed in the powder. The inventor has found that very precise quantities of the salts of the dibasic organic acids in combination with oils, fats and resins are especially adapted for eliminating the defect referred to above. In addition to this, this combined employment of the substances referred to, especially in combination with resins such as colophony, for example, presents further advantages with reference to the storability of the powder and as regards moulding and drying. Thus, for example, a nitroglycerine-nitrocellulose powder becomes specially tough or viscous by the combined addition of colophony or other appropriate resin with the salts mentioned, and accordingly the specific weight of the powder is increased. In addition to this it is possible to add this substance to almost any desired quantity to a powder with highly nitrated nitrocellulose. The inventor is aware that it has already been proposed to add to nitro-glycerine-nitro-cellulose explosives such substances as olive oil and alkaline metals or castor oil, magnesium carbonate and cotton pulp, combined with relatively large quantities (4% and over) of salts such as the acetates, borates, citrates, oxalates and tartrates, but he has proved by exhaustive experiments that such additions do not reduce the amount of muzzle flame, but considerably augment it, in addition to diminishing the ballistic efficiency of the powder.

The invention therefore consists in the improved means for preventing muzzle flaming with the said powders by the combined addition of small quantities of indifferent substances such as oils, fats, resins and the like, with precise quantities (1-2%) of salts of the dibasic organic acids, such as tartaric acid, lactic acid, oxalic acid, malic acid, pyro-mucic acid, salicylic acid and the like.

Improvements in the Application of the Electric Arc for Producing Reactions in a Gaseous Mass and in Apparatus therefor. A. A. Naville, P. A. Guye, and C. E. Guye, all of 3 Chemin des Cottages, Geneva, Switzerland. British Patent, 21,338. September 26, 1906.

The improvement consists in causing an electric arc to play within the gaseous mass, this arc being subjected to the action of a rotary field. When the arc is produced by a continuous current the rotary field sets it in continuous rotation; when the arc is produced by an alternating current the effect of the rotary field is to set it in oscillatory rotation. Electrodes of many types may be used, the appearance of the rotating arc depending on the type. The rotary field may be produced in any known manner; in a suitable form of apparatus the rotary field is produced by two systems of rectangular electro-magnets energised by two-phase currents. A type of furnace for this invention comprises a narrow chamber of insulating and refractory material containing as one electrode a disc having a projecting brim, preferably extending towards the other electrode, or a cone, and as the other electrode a tube through which the gases may pass. With an alternating current the periodicity of the arc current may be the same as, or different from, that of the rotary field. In the former case the arc will oscillate; in the latter case an oscillatory rotation will be produced which will vary in speed accordingly as the difference between the two periodicities is greater or less.

Improvements in the Manufacture of Barium Cyanide. J. Y. Johnson, 47, Lincoln's Inn Fields, London (communicated by the Badische Anilin and Soda Fabrik, Ludwigshafen-on-Rhine, Germany). British Patent, 22,039. October 5, 1906.

The patentee observes that although Margueritte and Sourdeval's process for the production of barium cyanide by heating together carbonaceous material and barium oxide, or barium carbonate, in the presence of nitrogen gas, was discovered in the year 1860 it has not hitherto been capable of being carried out on a commercial scale owing to the small yield of barium cyanide obtained. Experiments have shown that high temperatures are advisable during the reaction in order to cause as much nitrogen as possible to enter into combination, but the quantity of cyanide formed is not in proportion to the quantity of nitrogen combined, because at high temperatures the barium cyanide tends to split up into barium cyanamide and carbon according to the equation $Ba(CN)_2 = BaCN_2 + C$, and the inventors have discovered that this splitting up increases as the temperature increases, while at lower temperatures the reverse action takes place, barium cyanamide combining with carbon and forming barium cyanide. It would therefore naturally be expected that, during cooling down from the high temperatures employed, the barium cyanamide present would combine with the carbon which separated out at those high temperatures and that the cold product would consist of barium cyanide with little or no

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barium cyanamide. This, however, is not the case, for the cold product contains a considerable quantity of barium cyanamide, and the inventors believe that this is due to the carbon, which separates out from the barium cyanide at high temperatures, separating in, or being subsequently converted into, a form (for instance the form of graphite) unsuitable for being taken up again by the barium cyanamide during cooling. They have, however, discovered that if, during cooling, a gas containing carbon (such for instance as acetylene, or generator gas which has been freed from carbon dioxide) be led over a mixture containing barium cyanamide, the barium cyanamide takes up carbon and is converted into barium cyanide. Carbon dioxide is not suited for use in carrying out the process of this invention. The reaction can also be carried out by heating a mixture containing barium cyanamide up to, and maintaining it at, a comparatively low temperature, while passing the gases containing carbon over the said mixture. Temperatures below 1200° Centigrade are suitable for use in carrying out the process of this invention.

Improvements in the Production of Radio-active Crystals. J. Reitz, Elster, Saxony. British Patent, 24,222. October 30, 1906.

Difficulties have arisen, in the application of radio-therapeutics, in preventing the radio-active substance from losing its radio-activity or emanation, or in producing a durable preparation of a constant constituent of the radio-active medium. Attempts have been made to overcome this defect by binding the emanation in an organic and not in a mechanical manner. It is known that the emanation of radium is restrained mechanically by shutting off the air or in a vacuum, in order to prevent a diffusion and the formation of helium. According to my new process the emanation emitted from the radium is caused to be taken up by water. The latter containing the emanation is combined with suitable substances in the form of water of crystallisation, or is conveniently enclosed by the latter substances. With this object in view water binding crystals are pulverised and deprived of their water of crystallisation by heat. The substance thus freed from water is added to the water containing the emanation till the latter is absolutely absorbed by the pulverised substances. The water containing the emanation is then bound by the crystal and enclosed therein. Instead of using water containing the emanation, an aqueous solution of a radium compound can be used and caused to be absorbed or soaked up by the crystals as before mentioned. In this way a durable or resistable preparation is obtained, which can be stored.

Improvements in the Separation of Atmospheric Nitrogen for the Manufacture of Nitrogen Compounds. A. V. Cunnington, 2, Dyar Terrace, Winnington, Cheshire. British Patent, 25,605. November 13, 1906.

For some of the processes concerned with the utilisation of atmospheric nitrogen in the production of nitrogen compounds such as calcium cyanamide, it is necessary to obtain the nitrogen in a more or less pure state. The inventor observes that up to the present the best and cheapest way of doing this has been to liquefy the air and fractionally distil off the nitrogen. This is inevitably a costly method, and, moreover, one which will only give a pure gas when carried out with considerable care and attention. It is claimed that by the present invention nitrogen can be obtained from the air in an almost perfectly pure state, and, moreover, at a very small cost. The process consists of removing the oxygen from the air by passing the latter through incandescent fuel such as coke, preferably with the admixture of regulated quantities of an earthy carbonate such as limestone. The gas so obtained contains carbon dioxide, nitrogen, and mere traces of oxygen, and is passed through an ammoniacal solution of brine in an apparatus designed to give sufficiently intimate contact between the gas and the liquor. By this means the carbonic acid is removed and the nitrogen is obtained in a remarkably pure form; moreover, the bicarbonate of soda which is precipitated during the process from the ammoniacal brine contains the carbonic acid originally derived from the fuel and earthy carbonate.

In carrying out the invention, for instance, in the manufacture of calcium cyanamide by the electrical process, the mixture of carbon dioxide and nitrogen is obtained by the burning of limestone and coke in some form of lime kiln through which the air is passed. By this means the lime necessary for the process is produced, and at the same time the pure nitrogen from the air diluted with little else than carbonic acid, which is utilised in the soda process. In substantially this way, also, the nitrogen can be obtained in the synthetic manufacture of other nitrogen compounds by chemical, electro-chemical, or other means.

Our Book Shelf.

Commercial Organic Analysis, Vol. II., Part III. Acid Derivatives of Phenols, Aromatic Acids, Resins, and Essential Oils. By Alfred H. Allen, F.I.C., F.C.S. Revised by the Author and A. R. Tankard, F.C.S. Pp. 547. London: J. and A. Churchill. 1907. 20s.

The issue of the present volume completes the publication of the third edition of Allen's "Commercial Organic Analysis." It is quite unnecessary for us to emphasise the importance of this work, as it is now regarded as the standard of reference in the branch of analysis with which it deals.

The compilation of the volume under review was commenced in 1898 by its author, but owing to his ill-health the work made only slow progress, and all chemists will join with Mr. Tankard in the regretful reference which he makes, in his preface, to Mr. Allen's untimely death at a comparatively early age. Mr. Tankard observes that those who were privileged to have known Mr. Allen felt not only the loss of a friend but of a master mind, whilst they now miss the benefit of his enlightening knowledge and great practical experience, which were ever at the service of any who solicited his help.

The completion of the volume under notice was undertaken by Mr. Tankard in compliance with the special request of Mr. Allen. Mr. Tankard is responsible for the articles on the Analysis of Caoutchouc, Gutta-percha and Substitutes, and on the Individual Essential Oils and the Terpeneless Oils. The article on Turpentine Oil was written by the author, and has been brought up to date by a few additions. A portion of the author's manuscript was unfortunately lost, and this section (covering pp. 32 to 64) was undertaken by Dr. Henry Leffman, of Philadelphia. In preparing the chapters on Aromatic Acids, Resins and Essential Oils, Mr. Tankard has had the assistance of Mr. E. J. Parry, while Mr. L. Archbutt has assisted in the preparation of the article on Turpentine Oil.

The revision of this valuable work will be welcomed by all chemists who have to deal with organic analysis, and its place in standard analytical literature is now too well assured to call for further recommendation to our readers.

The Book of Receipts (Beasley). Rewritten by E. W. Lucas, F.I.C., F.C.S. Eleventh edition. Pp. 451. London: J. and A. Churchill. 1907. 7s. 6d. net.

The fact that this is the eleventh edition of Beasley's Druggists' Receipt Book is sufficient evidence of the useful nature of its contents and the estimation in which it is held by chemists and druggists. The twelve years which have elapsed since the last reprint of the work have witnessed a great advance in pharmaceutical and manufacturing knowledge, and this has necessitated the rewriting of most of the volume. The general character of the earlier editions has, however, been maintained, and the latest formulæ and methods have been incorporated.

The contents include a Veterinary *Materia Medica*, a Pharmaceutical Formulary, and a Photographical Formulary, while a chapter dealing with urine analysis and the examination of potable waters, milk, sputum, etc., has been added. Part VI. of the volume includes lists of synonyms and incompatibles, a copy of the Poisons Schedule of the Pharmacy Act, a list of poisons and antidotes, lists of volumetric solutions and coefficients, indicators, analytical factors, thomometric and hydrometer equivalents, tables of weights and measures, melting points, solubility tables, and a list of the principal chemical substances used in pharmacy.

Books Received.

Red Books of the British Fire Prevention Committee: No. 122., Fire Tests with Petrol Tanks. Pp. 24. 2s. 6d.

Practical Chemistry for Army and Matriculation Candidates. By G. Martin, B.Sc., Ph.D. Pp. 144. London: Crosby Lockwood and Son. Pp. 66. 2s. net.

Illustrated Catalogue of the Royal Photographic Society's Exhibition, 1907. 1s.

Bacteriological Examination of Disinfectants. By W. Partridge, F.I.C. With a preface by C. E. P. Fowler, D.P.H., F.R.C.S.; Pp. 66. London: The Sanitary Publishing Co., Ltd. 1907. 2s. 6d., net.

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Reports of Companies.

CALICO PRINTERS' ASSOCIATION, LTD.

At the annual meeting of shareholders, held in Manchester, on Tuesday last, Mr. R. P. Hewitt, the chairman, referring to the increased capital expenditure, said this was due to the acquisition of businesses and to additions and extensions in works. Speaking of the general balance-sheet, he said that the amount owing by sundry debtors was larger than last year by £183,000. These were thoroughly safe and solid accounts. The stock-in-trade was about £208,000. more than last year. Part of this extra value is owing to the fact that drugs, etc., were increased both in quantity and price. The increased cost of cloth they deplored, but were powerless to prevent. The increased quantity was due chiefly to expanding trade, and partly to a stock taken over with a recently-purchased business. The net profit of £424,040., the chairman pointed out, represented almost 8½% on the whole undivided share capital, as against 7% last year, and they proposed to give to the shareholders the whole of the increased earnings, and at the same time allocate to various reserves, for the upbuilding and strengthening of their future position, the same amount, *viz.*, £150,000., as last year. Calculating this year's profits on the two classes of shares respectively, and before adding £50,000. to capital reserve, they had made the required 5% on preference shares, and 13¾% on ordinary shares. Out of this they proposed to add the customary £50,000. to capital reserve, £75,000. to revenue reserve, and to begin a new reserve of £25,000. as the nucleus of a fire insurance fund. After these appropriations were made they had enough, with the help of a small sum from the carry-over, to pay 6¼% to the ordinary shareholders. The present feature in the Lancashire cotton trade was a lessening of demand, in which the association were at present sharing, apparently due to the high price of cotton now ruling, coming on two or three years' large trade throughout the world, on an average lower price of cloth. This abstinence on the part of buyers everywhere appeared to be adopted from caution and forethought rather than compelled by over-repletion and congestion in foreign markets. Indications already pointed to a resumption of buying on a larger scale as soon as confidence in some level of price was established. In view of what is happening just now in the Cotton Exchanges of America, it was appropriate to repeat what he said last year, that the supreme abiding interest of that association, as of Lancashire, lay, not in scarcity and dearness, but in abundance and cheapness of cotton.

ALBY UNITED CARBIDE FACTORIES LIMITED.

At the meeting of shareholders, on Tuesday last, Mr. A. E. Barton, who presided, said that the accounts showed a loss of £5,443., but this was nothing more than might have been expected in the early stages of such a concern, as it took time to place the business upon a profit-earning basis. The whole of the output of the Alby and Meraker factories for the present year had been sold at prices which were estimated to produce a profit of £30,000. The total estimated profit on carbide already sold on forward contracts was £125,000., and he believed he was justified in saying that the total profit to the company on the year's production would work out at £150,000. Good results were also expected from the sale of cyanamide, which was a fertiliser which might eventually take the place of the Chilian nitrate.

SCOTTISH CYANIDE COMPANY.

An extraordinary general meeting was held in Edinburgh, on Saturday last, for the purpose of considering a proposal to wind up the company voluntarily. Dr. Dawson Turner who presided, said that coal was the largest item in the company's expenditure, and the continued advance in the price had made it impossible to produce cyanide at a reasonable rate. Every 6d. to the price of coal added ⅛ of a 1d. per lb. to the cost of cyanide. The present price of coal added ¾d. to ⅞d. to the cost of production, and it was likely to be increased. The works required 70 tons of coal per day. In addition to this, the price of cyanide, which was 1s. 2d. per lb. when the company started, fell steadily until it reached 6½d. The company's competitors used so little fuel that the increased price scarcely affected them at all. The company had endeavoured to dispose of the works in Fife, and they believed if they went into liquidation there would be a bidder for some of the apparatus. He moved that the company be wound up voluntarily, and Mr. George Redmond seconded. The motion was carried unanimously.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Prices Wednesday, Sept 18.
120,000	1	1	Bell's Asbestos .. ord	40/-
	Stock	100	Boraax Consol 4½% deb. stock red	109 111
80,000	10	10	Do. ... pref.	11⅛
1,356,477	1	1	Bradford Dyers ... ord.	2⅜
1,50 ,000	1	1	Do. ... 5% c.p	2⅛
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/3 12/9
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	4⅜
10,000	10	10	Do. ... 6% c.p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5¼ 5⅜
82 678	10	10	Do. 7% pref	17¼ 17½
96,000	5	5	Bryant and May ... c.p.	12⅞
40 000	10	10	Buxton Lime Firms ord.	6⅛ 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/3
450,000	1	1	Castner Kellner ... ,,	2 1/16 2⅝/-
16,000	5	5	Clayton Aniline ... ,,	2¾ 3
12,000	5	5	Do. ... 6% c.p	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.f.	2½ 3
20,000	10	10	Crosfield J, and Sons c.p	10 5/16
85,000	1	1	Fletcher, Russell, & Co. ord	27/3 27 9
5,000	10	10	Do. 6% c.p	11 5/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94
	10	10	India Rubber Co. ... ,,	14¼
	5	5	Lagunas Nitrate ... ,,	3⅛ 3⅝
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	12 12½
200,000	10	10	Lever Bros. ... 5% c.p.	11 11¼
400,000	10	10	Manchester Ship Canal ord.	21/- 22/-
400,000	10	10	Do. per 5% pref.	30.6 31,6
120,000	1	1	Mandelberg ... ord	31/- 32/-
185,145	1	1	Mason and Barry ... ,,	5S 9
110,007	10	10	Nitrate Railways ... ,,	13 13½
228,540	10	10	Nobel Dynamite Trust ,,	15 5/16
	10	10	Do. share warrants	15½
200,000	1	17/-	Oakbank Oil, Ltd. ... ord	38/-
	1		Pears, A. and F. ... ,,	1 1/16 1 5/16
70,000	10	10	Pease and Partners ... ,,	13¾ 14
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12⅜
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	7⅜
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	3/- 3/6
200,000	4	4	Salt Union ... ... ,,	18,6 19/-
100,000	6	6	Do. ... 7% n.c.p.	4½ 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1⅛ 1⅜
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	119 121
45,000	10	10	Steiner, F and Co. 5% c.p.	9⅛ 9⅜
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6½
289,343	10	10	United Alkali ... ord.	81/3
282,524	10	10	Do. ... 7% pref.	11½
80,000	1	1	United Indigo & Chemical ord	2/- 2/3
66,666	5	5	Willans and Robinson ,,	¼ ⅜
210,000	1	1	Woolcombers ... 7% c.p.	19/9
112,292	4	4	Young's Paraffin ... ord.	74/-

THE NEW AUSTRALIAN TARIFF.—The Board of Trade has now issued, as a supplement to the *Board of Trade Journal*, the text of the new tariff proposals of the Australian Commonwealth. A special abstract of those portions of interest to our readers will appear in our next issue.

THE ASSOCIATION OF CHAMBERS OF COMMERCE.—The Autumnal Meeting of the Associated Chambers of Commerce of the United Kingdom was opened at Liverpool on Wednesday last, Lord Brassey presiding. The President's address was devoted to a consideration of the railway problem; Lord Brassey's speech on this subject will be found summarised in our leader columns. Various important subjects were discussed, including smoke abatement, the proposed Ministry of Commerce, false trade marks, etc. A further report of the meeting will be given in next week's issue.

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NEW YORK PRICES CURRENT.

SEPT. 3, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8⅝
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¼
„ „ „ Continental	„	0 7
Ammonia, Carbonate, lump	„	0 7⅝
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9½
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 7
Potassium, Bichromate	„	0 8½
„ Carbonate, 90%	„	0 4½
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

CYANIDE IN RUSSIA.—The *Ural Technician* states that a cyanide plant estimated to treat 1,000 poods (16 tons) a day was started in July of this year at the Schabroff Lake of the Berisoff Gold Production Co.

THE UNITED STATES GOVERNMENT AND THE STANDARD OIL CO.—On Tuesday last sensational evidence was heard in the New York Federal Court in the Government's action to annul the charter of the Standard Oil Company of New Jersey the parent oil company. The list of securities owned by the Standard Oil Company of New Jersey shows that it holds 9,990 of the 10,000 outstanding shares of the Standard Oil Company of Indiana, which was recently fined $29,000,000. in the Chicago suit, from which it has been allowed to appeal on condition of its lodging in court $6,000,000. worth of bonds. These facts were elicited during the examination of the company's assistant-comptroller, Mr. Rey, who further swore that the gross assets of the Standard Oil Company of New Jersey had increased from $200,791,623. in 1899 to $371,664,531. in 1906, and that in the same period the total profits aggregated $490,315,934., from which dividends amounting to $308,359,430. were paid. Among the foreign stockholdings of the Standard Oil Company, New Jersey, are those of the Anglo-American Company, Limited, 49,987 shares; the Deutsche-Amerikanische Petroleum Gesellschaft 9,000 shares and 20,972 warrants; the Empreza Industrial de Petroleo, 3,500 shares; the Imperial Oil Company, Limited, 14,244 shares; and the Romano-Americano, 25,000 shares. During the further examination of the Standard Oil Co.'s officials, it was shown that Mr. John D. Rockefeller owned 256,854 of the 972,500 certificates of the old Standard Oil Trust, and that during the period from 1899 to 1906 he received £16,034,689. in dividends on his shares. In 1906 the Standard Oil Co. of Indiana, with a capital of £200,000., made profits amounting to £2,103,216., and in the same year it paid dividends amounting to £889,100.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, Sept. 3, 1907.

(Rate of Exchange, $4.87 = £1.)

Nitrate of soda remains dull, and no business of any consequence has been transacted for the last week. Small parcels on spot can be bought from $2.32. to $2.35. Futures are quoted at $2.42½ to $2.45. Sulphate of ammonia remains quiet, and is in very light demand, while prices generally quoted are $3.07½. to $3.10. for prompt, and $3.05. per 100 lbs. for futures, for either the foreign or domestic. Grey muriate of ammonia for galvanising remains unchanged at 6c. per lb. White electrical is selling rather slowly, and can be bought on spot at 5¾c. per lb. Lump sal ammoniac remains unchanged at 9¼c. per lb. Lump carbonate of ammonia is moving along slowly on contract, very little new business being reported; prices are well maintained at 7⅞c. to 7⅞c. per lb. Bleaching powders are dull at $1.30. per 100 lbs. Sulphate of copper is weak, and the expected reductions have not as yet materialised; however, it can be bought in carloads as low as 6½c. per lb. White powdered arsenic is rather firm; spot parcels are bringing 7⅛c., and futures 7¼c. per lb. Red Saxony arsenic is unchanged. Calcined carbonate potash, 80-85%, is in pretty good demand, and selling at 3¾c. per lb. Hydrated carbonate of potash is rather scarce on spot, and is quoted at 4¾c. per lb. Caustic potash, 75%, is selling at 5¼c. per lb. Chlorate of potash and soda are unchanged at 9¼c. per lb. for prompt. Bichromate of potash is selling rather freely at 8⅛c. to 8¼c. per lb. Bichromate of soda is quoted at 7⅛c. to 7¼c. per lb. Oxalic acid is rather weak, and spot parcels are bringing $8.45.; prices for next year are 6¾c. to 7¼c. per lb.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols: Values are given at 8d. to 8¼d. for 90's, and 8¾d. to 9d. for 50-90's. Crude tar, 15s. 6d. to 19s. 6d. per ton, Thames; 1¾d. to 1¾d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 27s., f.o.b.; Gas Company, 29s.; East Coast, 25s. 6d. to 26s.; West Coast, 25s. to 26s. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10d. to 10½d.; pure, 1s. 3d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5¼d.; 34-35, 5½d. Cresylic, 95%, 1s. 1d. to 1s. 1½d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, October-December shipment, £12. 1s. 3d.; Beckton terms, £11. 11s. 3d. to £11. 12s. 6d.; London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12.

Nitrate of soda, ordinary, 11s. 3d.; refined, 11s. 9d.; Liverpool, ordinary, 11s.; refined, 11s. 1½d. Official quotations:—Cargoes off coast or due, 11s. 1½d.; ditto, for prompt shipment, 11s. 7½d.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £66. 15s. to £67 cash, and £66. 15s. to £67. three months. Tin: G.M. quality, £167. 10s. to £168. cash, and £164. 15s. to £165. 5s. three months; English, £169. Lead: Soft foreign, £20. 10s. prompt; £20. 7s. 6d. for October, and £19. 2s. 6d. for December shipment; English, £20. 15s. Spelter, ordinary brands quiet at £21. 5s. ex ship; hard, £18., f.o.b. Antimony, £43. to £45.; ore, £13. Bismuth, 6s. 6d. Quicksilver, £7. 5s.; seconds, £7. 4s. Aluminium, £155. to £160. Wolfram, 42s. 6d. to 45s. Nickel, 1s. 10d. per lb. Pig-iron closing prices: Cleveland, 54s. 7d. cash, and 54s. 4d. one month.

FERTILISER MATERIALS.

FRIDAY.

Business in all departments for raw manure material is very slow, but prices keep very steady.

There is no change to report in mineral phosphates, raisers having disposed of most of their output for some years ahead, are not anxious at present to commit themselves further.

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Nitrate of soda is still a quiet market, but prices remain steady, at 11s. 1½d. for 95% and 11s. 4½d. per cwt. for refined quality, ex store.

East Indian bone meal, for shipment, is extremely dull, the quotation being £4. 17s. 6d. per ton nett, c.i.f. terms, Liverpool, 4½ and 52% quality. On spot, £5. 5s. to £5. 10s. per ton, according to quality, is asked.

MISCELLANEOUS CHEMICAL MARKET.

FRIDAY.

In chemicals generally the demand is well sustained, and prices of all heavy chemicals and raw materials seem to be firmly established. In the alkali trade some advances are spoken of as likely to follow the increased price of fuel. Saltcake has been advanced to 42s. 6d. per ton in bulk. Vitriol is dearer. Caustic soda is unchanged for this year's delivery at £9. 15s., f.o.b. Alkali, 58%, stands at £4. 10s., in bags, f.o.r. Soda crystals, 60s. per ton, f.o.r. Bleaching powder is steady at £4. 7s. 6d. to £4. 10s., f.o.r. and f.o.b. Chlorates are unchanged at 3½d. Sulphate of copper is steady, at £24. 10s., f.o.b. Potash, caustic and carbonate, are in steady demand and prices for prompt and future delivery are a shade dearer. Prussiates keep steady at former quotations, and business is more active. Bichromates are unchanged. Acetate of lime, grey, 80%, stands very firmly at £12. 10s., c.i.f. Other acetates and acetic acids are, if anything, a shade easier and more freely offered. All ammonia salts and ammonia are very firm in values.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quiet. Pearl ash nominal. Cutch steady. Gum arabic steadily held. Gum copal; a small sale of Gold Coast is reported, 59s. per cwt. Logwood and fustic quietly steady at recent currencies. Castor oil quiet, at 3½d. for good seconds Calcutta; 3⅝d. to 3 11/16d. for first pressure French, 3¼d. for second pressure French, and 3⅜d. for Calcutta shipment on to January next. Gambier: Block, 18s. 1½d. on spot; 18s. to 18s. 1½d. for July-August, and 18s. for August-September shipment. Cubes, 28s. 6d. to 29s. on spot, 27s. 9d. for September-October shipment, and 27s. 10½d. for August-September. American powdered starch, 10s. 6d. on spot, and 10s. c.i.f. for shipment; pearl, 9s. 9d. on spot, and 9s. 6d. c.i.f., for shipment. Glucose: American liquid, 43%, 12s. for spot; October-December shipment 11s. 6d. Cream of tartar, 98% foreign powder 81s.; 95%, 79s. Tartaric acid 11¼d. on spot; foreign, 10⅞d. to 11d. Citric acid, English, 1s. 10¼d.; foreign, 1s. 10d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil quiet, sales including Benin £27. 5s. per ton, on spot, and hard oils at £26. 5s. Cottonseed oil steady, at 28s. 6d. to 29s. 6d. for Liverpool refined in export barrels. Linseed oil firm at 25s. 6d. to 26s. for Liverpool makes in export casks. Tallow steady at 31s. to 31s. 6d. for Norths, and 33s. 6d., c.i.f., for South American beef. Rosin steadily held. Turpentine firm at 40s. per cwt. on spot. Petroleum firm at 6⅞d. for Russian and Roumanian, and 7¼d. to 8¼d. for American refined oils. Petroleum spirit steady at 1s. 0¼d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s.; white £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; Venetian red, lump, 7s. 6d.; powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d.; China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d.; Brunswick, 28s. to 34s. per cwt.

TYNE CHEMICAL REPORT.

THURSDAY.

The market continues fairly steady, with about a normal demand. Caustic soda, 70%, £9. 15s., and 76-77%, £10. 10s. per ton. Bleaching powder quiet at £4. 15s. to £5. 5s. per ton. Soda crystals locally firm at £2. 17s. 6d. to £3. 2s. 6d. per ton gross weights. Sulphur steady at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 2s. 6d. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—The market continues steady, and current prices are:—Best Northumbrian steam coals, 16s. per ton; seconds ditto, 14s. to 14s. 9d. per ton; small steam coals, 10s. to 11s. per ton; best gas coals, 15s. 6d. to 16s. per ton; Durham Bunkers, 13s. 3d. to 13s. 6d. per ton; coking coals, 14s. 6d. per ton; household coals, 16s. 6d. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The late abnormally stationary position of sulphate of ammonia, Leith and Glasgow business, still continues, the quoted prices for prompt remaining the same, and fairly firm, although the actual sales are but of moderate volume. Sulphate of copper is again easier, and values lower, following the metal market. Both prussiates and chlorates lean to the fall, and prussiate of potash and chlorate of potash are a fraction cheaper. The heavy chemicals are unchanged, the demand keeping steady and late price figures firm. Saltcake steady again, at 40s. for prompt, and with some mention of forward business done at the same figure. Mineral burning oils of Scotch make are practically all by this time contracted for ahead, at the season's agreement price as given below. Home makes of lubricating oils, naphthas, and solid paraffins all steady as before.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal tar and blast-furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¼d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 5¾d. to 5¾d. nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £25. 5s., to £25 10s., less 5% Liverpool, prompt.

New Companies.

Volatile Solvents Recovery Co., Ltd.—Capital £1,500., in £1. shares (600 founders'). This company has been formed to acquire and turn to account certain inventions and patents relating to the recovery of volatile solvents used in various manufactures, and to adopt an agreement with C. Harrison, W. Bate and W. C. Perks. Minimum cash subscription 50% of the shares offered to the public. The subscribers are to appoint the first directors; qualification £50.; remuneration (excepting managing directors) 40% of the profits remaining after providing for a dividend of 10s. per share, divided. Failing sufficient surplus, remuneration to be fixed by the company). Registered office, 6, Bread-street Place, E.C.

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Liverpool Barytes Co., Ltd.—Capital £20,000., in £1. shares. This company has been formed to acquire any mines, mining rights and metalliferous land in Ireland or elsewhere. No initial public issue. The first directors are E. D. Storer, A. F. Storer, J. I. McConnell, F. D. Roscoe and H. W. Wilson. Qualification 500 shares; remuneration £50. each per annum.

Brazilian Manganese Corporation, Ltd.—Capital £1,000., in £1. shares. This company has been formed with objects as indicated by the title. No initial public issue. Registered without articles of association. Registered office, 33-37, Eldon-street House, E.C.

Peruvian Rubber Co., Ltd.—Capital £250,000. in £1. shares. This company has been formed to acquire a concession for the construction of an inland road, 120 miles long, from Phara, province of Sandia, to a point navigable by steamer on the Tambopata River, granted to M. Forga and Sons, and transferred with the consent of the Peruvian Government to La Compania Gomera Villamayo Limitada, of Arequipa, Peru, to complete the construction of the said road (on which completion the company will be entitled to select, subject to the approval of the said Government, titles to grant in perpetuity of 420,000 acres of land), to immediately acquire about 80,000 acres of rubber-bearing forest land on the said river, now held on lease from the Government of Peru at a royalty of about 4s. per 100 lbs. of rubber extracted, apart from Customs duties (the leasehold merging into perpetual ownership under the aforesaid concession), and to carry on the business of cultivators of and dealers in rubber, tobacco and other produce, etc. Minimum cash subscription 50,000 shares. The British Investment Syndicate, Ltd. are the vendors. Purchase consideration £25,000. cash, £25,000. cash or shares at the company's option, and £75,000. shares (vendors paying preliminary expenses, estimated at £6,500). The vendors will pass over to the Compania Gomera Villamaya, Limitada, £20,000. cash and £10,000 shares out of the said consideration. The first directors are Major-General Sir John C. Ardagh, V. M. Caceres, Sir Ernest Clarke, J. Irvine, F.R.C.S., E. Lembcke, F. W. Schafer and O. Wethered; qualification £250.; remuneration £250. each per annum (£100. extra for the chairman) and 5% of the distributed profits, divided (such percentage not to exceed £5,000. in any year). Registered office, 131-3, Dashwood House, E.C.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Gins.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.					lb.	Pounds.
Brls.	Barrels	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending September 7.

Acetic Acid—

Holland,	56 pks.	R. W. Greeff & Co.	
,,	85 cs.		
,,	25½bls.	W. H. Muller & Co.	
Germany,	38 cks.	F. A. Tye	
,,	17 cbys.	H. W. Brunmerstaldt & Co.	

Acetone—

A. Hung.,	€1,840	P. F. Knowlden

Alcohol (Methylic)—

U.S.A.	7,000 gals.	P. F. Knowlden

Albumen—

France,	£9	J. Harrison

Alum—

Belgium,	6 cks.	Petri Bros.

Aluminium Sulphate—

Holland,	£810	Ohlenschlager Bros.

Ammonium Cyanide—

Holland,	£15	Van Oppen & Co.

Antimony Ore—

Straits,	29 t.	R. & J. Henderson

Argols—

Spain,	58 cks.	Thames S. T. & L. Co.

Asbestos—

Germany,	1 t.	4 c.	Craven & Co.
N. Russia,	96	16	Deering & Robottom

Barytes—

Holland,	10 cks.	F. T. H. Lye	
,,	44	W. Harrison & Co.	
,,	100 bgs.		
,,	65	700	Z. Cartwright
,,	90		O'Hara & Hoare
,,	4		O. Leedio
Germany,	200		Felton & Crepin
,,	15		Cotton Powd. Co.
,,	11		G. Boor & Co.
,,	15		Ldn. & Rhine S. Office
Belgium,	70		W. Harrison & Co.
,,	16	100	Blackwell, Sons & Co.
,,	20		B. & F. Wf. Co.
,,		90	Taylor Bros.

Barytes—

Belgium,	100 bgs.	Felton & Crepin

Benzoic Acid—

Germany,	4 cs.	M. Dk. Co.

Bismuth Carbonate—

Germany,	200 cs.	Argo S.S. Co.

Bleaching Powder—

Germany,	48 t. 10 c.	J. N. Steel & Co.

Camphor—

H. Kong,	150 cs.	R. Warner & Co.
China,	20	,,
,,	36 cks.	Slann & Davis
U.S.A.,	1 cs.	P. & O. S. N. Co.
Japan,	30	L. & I. D. Jt. Co.
H. Kong,	180	Kiver & Co.
Germany,	€115	Smith & Co.
H. Kong,	25	L. & I. D. Jt. Co.

Calcium Carbide—

Norway,	5 t.	H. Dalton

Caoutchouc—

Burmah,		5 c.	Props. Bull Wf.
Straits,	16 t.	5	,,
,,	7	10	Weber, Smith & Co.
,,			16 Butler's Wf.
,,	5		H. W. Jewesbury, & Co.
,,	7	7	S. Figgis & Co.
,,	1	10	Lichfield & Soundy
,,	1		Lewis & Peat
Ceylon,	£9		L. & I. D. Jt. Co.
,,	2 trcs.		,,
,,	6 c.		Hoare, Wilson & Co.
,,	3		Shand, Haldane & Co.
,,	2		Lawrence, Boustead & Co.
Aden,	1	9	Clarke & Smith
,,	1	5	L. & I. D. Jt. Co.
Ceylon,	1 t.	19	Prop. Hay's Wf.
,,		2	Bremner's & Laycock

Caoutchouc—

France,	6 t.	10 c.	S. Figgis & Co.
,,	£82		L. & I. D. Jt. Co.
,,	1 t.	15	,,
,,	3	3	H. Kiver & Co.
,,		5	Dalton & Young
Germany,		5	L. & I. D. Jt. Co.
,,		7	Props. Bull Wf.
,,		3	Baxter, Hoare & Co.
Portugal,		8	W. H. Smith & Son
Egypt,	4		Lawrence Boustead & Co.
Germany,	20 dms.		J. N. Steel

Caustic Potash—

Sweden	42 dms.	G. H. Chippingdale
,,	7	G. Atkinson & Co.
Germany	20	9 cs. J. N. Steel & Co.

Chalk (French)—

France	£26	Atkins & Nisbet
	6	J. Harrison & Co.
Belgium	26	W. Harrison & Co.

Chemicals (*otherwise undescribed*)

U.S.A.	£400	B. & F. Wf. Co.
,,	14	Taylor & Bros.
Germany	29	Prop. Hay's Wf.
,,	500	T. H. Lee
,,	13	Argo S.S. Co.
,,	467	A. & M. Zimmermann
,,	40	N. & R. Collyer
,,	71	L. & I. D. Jt. Co.
France,	16	Mory & Co.
Holland,	8	Van Dam & Co.
Holland,	312	W. H. Muller & Co.
,,	200	W. Smith
Belgium,	10	T. H. Lee
,,	18	J. Cockerill Line
Canada,	16	J. Owen

Carbon Black—

U.S.A.,	60 cs.	L. & I. D. Jt. Co.

Carbonic Acid Gas—

Holland,	35 t.	1 c.	W. H. Muller & Co.

Coal Products—

Aniline

Belgium,	20 pks.	J. Cockerill Line
Germany,	2 cks.1 cs.	L. & I. D. Jt. Co.
Belgium,	13 pks.	Fiend & Co.

Pitch

N. Russia,	£234	Worrington & Co.
Belgium,	200 bgs.	J. Owen

Tar

N. Russia,	50 hhds.	Linch, Moeller & Co.
Germany,	48	,,
,,	£183	Worringham & Co.

Copper Ore—

Queensland,	18 t.	J. W. Cook & Co.
H. Kong,	111	H. Grey, jun.
Queensland,	45	M. Bath & Son
N.S.W.,	22	J. W. Cook & Co.

Copper Concentrates—

Queensland,	35 t.	J. W. Cook & Co.

Cream of Tartar—

France,	4 cks.	Kearley & Tonge
,,	2 20 kgs.	Potts Bros.
Holland	22	S. White
,,	8	Kirkpatrick, Barr & Co.
France	22	Vokins & Co.
,,	5	B. & F. Wf. Co.

Dextrine—

Germany,	5 t.	M. Dk. Co.

Dyestuffs—

Cochineal

Canary Is.,	32 bgs.	L. & I. D. Jt. Co.
,,	4	Price, Hickmann & Co.
,,	29	Knowles & Foster

Cutch

Burmah,	500 bxs.	Union Litharge Co.
Straits,	606	H. Grey, jun.

Divi Divi

E. Indies,	29 bgs.	Leach & Co.

Gambier

Straits,	236 bls.	J. T. & T. Powell

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Dyestuffs—
Gambier
E. Indies, 14 chts. Lewis & Peat
Straits, 839 bls. Leach & Co.
" 521 W. T. Sargant & Sons
Indigo
E. Indies, 15 chts. L. & I. D. Jt. Co.
Myrabolans
E. Indies, 370 cs. Jacob & Co.
" 683 bgs. E. J. Winser & Co.
" 681 France, Fenwick & Co.
" 419 pks. "
" 683 bgs. G. R. Haller
Turmeric
E. Indies, 71 bgs. Litchfield & Soundy
" 5 bgs. Perkins & Homer
Vanilla
France, 2 cs. Robinson, Roberts & Co.
" 3 Leach & Co.
Milan, 1 Lewis & Peat

Disinfectants—
France, £40 Mory & Co.

Farina—
Holland, 14 c. J. Barber & Co.

Formic Acid—
Germany, 10 cks. G. S. N. Co.

Gelatine—
Belgium, £40 J. Cockerill Line
" 135 Atkins & Nisbet
France, 98 Mory & Co.
" 20 A. Foley & Co.
Germany, 6 Argo S.S. Co.

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glycerine—
Germany, £90 Barber & Co.

Glue—
Belgium, £302 T. M. Duche & Sons
Norway, 51 W. J. Davis & Sons
Holland, 52 W. H. Muller & Co.
Germany, 51 London & Rhine S. Office
" 20 Prop. Hay's Wf.
Belgium, 343 Leach & Co.
France, 500 Bennett S.S. Co.
Holland, 52 O. Lechla
" 127 Hernu, Peron & Co.
" 30 T. H. Lee
" 108 Van Dam & Co.
Germany, 30 Prop. Hay's Wf.
France, 70 Murray & Co.
" 20 Atkins & Nisbet
Holland, 345 J. Barber & Co.
U.S.A., 130 W. Langford & Co.

Glue Stock—
Arg. Rep., 9 c. Goad, Rigg & Co.
Belgium, 8 t. Erith & Dartford L. Co.
Queensland 2 3 Fellows Morton & Co.
France, 3 10 B. & F. Wf. Co.
Belgium, 10 D. C. Thomas & Son

Gutta Percha—
N. Russia, 5 c. Leach & Co.
Straits, 5 t. 13 L. & I. D. Jt. Co.
" 5 Props. Bull Wf.

Iodine—
Germany, £1,433 L. & I. D. Jt. Co.

Kainit—
Germany, 43 t. F. W. Berk & Co.

Lead Ore—
P. E. Africa, 10 t. Fielder, Hickmann & Co.

Linseed Oil—
Holland, 147 brls. Robinson, Roberts & Co.

Lithopone—
Germany, 50 cks. Spies, Bros. & Co.
Belgium, 32 J. L. Lyon & Co.
Holland, 20 A. Zumbeck & Co.
Germany, 1 cs. Craven & Co.
Holland, 28 F. T. H. Nye
" 50 J. F. Lauderdale

Manganese Ore—
Germany, 2 t. A. H. Gilbert & Co.

Manganesite—
Germany, £69 Argo S.S. Co.

Manure—
Arg. Rep., 150 t. L. & I. D. Jt. Co.

Olive Oil—
Italy, 1 tun. Zetterquist & Harvey
" 198 gals. "
" 159 F. Poppalard & Co.
France, 209 B. & F. Wf Co.
" 10 Mory & Co.
" 1 30 T. Claydon & Co.
" 214 4 L. & I. D. Jt. Co.
" 9 209 F. Boehm
" 1 121 Gill & Duffus

Paraffin Scale—
U.S.A., 250 t. 13 c. Anglo-American Oil Co.

Paraffin Wax—
E. Indies, 7 t. 13 c. Montgomery & Co.
U.S.A., 109 Mercantile Ltge. Co.
Germany, 1 T. H. Lee

Phosphate of Lime—
France, 395 t. Hunter & Loma Co.

Phosphoric Acid—
U.S.A., £70 R. Ansell & Co.

Potassium Carbonate—
Germany, 10 cks. J. Barber & Co.
" 47 J. N. Steel & Co.
France, 25 Kirkpatrick, Barr & Co.
Germany, 5 Argo S.S. Co.
" 2 L. & I. D. Jt. Co.
France, 5 J. Barber & Co.
Germany, 75 A. & M. Zimmermann

Potassium Chlorate—
Holland, 2 cks. Sparks, White & Co.
Sweden, 70 kgs. G. Boor & Co.
" 24 cs.

Potassium Iodide—
Japan, £400 L. & I. D. Jt. Co.

Potassium Prussiate—
France, 19 cks. J. Owen
Belgium, 2 Luke & Bailey
Holland, 2 J. Owen

Plumbago—
Germany, 1 ck. Craven & Co.
Ceylon, 34 brls. Doulton & Co.
" 31 Litchfield & Soundy
" 755 Thredder, Sons & Co.
Germany, 33 cks. B. Gallaway
Ceylon, 89 brls. G. R. Haller

Pyrogallic Acid—
Germany, 10 cs. A. & M. Zimmermann
Holland, 3 W. H. Muller & Co.

Quinine—
Holland, 20,000 ozs. W. H. Smith & Son

Quinine Salts—
France, 800 ozs. Moyle & Co.

Quinine Sulphate—
Holland, 20,000 ozs. Litchfield & Soundy

Red Lead—
France, 80 brls. J. Watt & Son

Ripolin—
Holland, 97 pks. Phillipps & Graves

Rosin—
Holland, 5 cs. Van Dam & Co.
" 456 brls. Goodlake & Nutter

Salicylic Acid—
Germany, 6 pks. T. H. Lee

Salt (Waste)—
Holland, 4 t. Phillipps & Graves

Silver Nitrate—
Germany, £375 M. Dk. Co.

Soap—
France, £567 Vokins & Co.
" 381 L. & I. D. Jt. Co.
" 6 Europe & Gen. Exp. Co.
" 52 Mory & Co.
" 18 Beresford & Co.
Germany, 127 L. & I. D. Jt. Co.
" 8 Hertz & Co.
Holland, 100 W. H. Muller & Co.
" 28 T. H. Lee
U.S.A., 350 W. Davis
" 129 Field & Co.
" 81 Armour & Co.
Belgium, 20 J. Cockerill Line
" 48 D. C. Thomas & Co.

Soap Powder—
Holland, £8 W. H. Muller & Co.
" 11 T. H. Lee
Germany, 132 Mercantile Ltge. Co.
" 454 Ldn. & Rhine S. Office

Soap Stock—
Belgium, £25 W. Chandler

Soda Crystals—
Belgium, 25 t. G. A. Loos & Co.

Sodium Acetate—
Belgium, 10 t. P. F. Knowlden

Sodium Bicarbonate—
Belgium, 10 t. F. W. McKenzie

Starch—
Holland, 30 t. W. H. Muller & Co.
" 35 17 c. Little & Johnson
" 2 Gill & Duffus
" 18 J. Barber & Co.
" 7 10 Pickfords, Ld.
" 3 Gordon, Watt & Co.
" 10 Henderson, Craig & Co.
U.S.A., 10 Tenant's Wf.
" 2 16 T. L. Field & Co.
" 12 10 W. Grose & Co.

Stearine—
Belgium, 6 t. G. S. N. Co.
Holland, 26 pks. W. H. Muller & Co.
France, 12 bgs. Mordaunt Bros.

Sulphur—
Italy, 50 t. Curtiss & Harvey

Talc—
Aust. Hung., £78 Carbutt & Co.

Tallow—
N.S.W., 20 cks. Hill & Son
" 161 Concordia Wf.
Queensland, 337 Anning & Cobb
" 47 Bessler, Waechter & Co.
" 16 E. L. Annot
" 120 Phillipps & Graves
" 54 Mordaunt Bros.
N. Zealand, 240 J. Owen
" 122 Leach & Co.
" 420 Lucas & Spencer's Wf.
" 234 L. & I. D. Jt. Co.
" 43 Sanderson, Murray & Co.
" 77 Bank of N.Z.
" 112 N.Z., L. & W.A.C.
" 400 New Sun Wf.
" 537 Anning & Cobb
" 58 Morrison & Co.
" 24 Hill & Sons
" 26 Dalgety & Co.
" 449 Thornet & Fehr
" 73 Mordaunt Bros.
Arg. Rep., 113 Bessler, Waechter & Co.
" 273 Phillipps & Graves
Victoria, 201 Cook & Co.
Townsville, 39 M. Kent
Brisbane, 10 Prod. Brokers Co.
Sydney, 44 Thornett & Fehr
" 56 Henderson, Craig & Co.

Tannic Acid—
Holland, £2 W. H. Muller & Co.

Tartaric Acid—
France, 20 kgs. B. & F. Wf. Co.
Holland, 1 ck. W. H. Muller & Co.
" 10 B. & F. Wf. Co.
" 56 pks. "
" 20 blns. Kirkpatrick, Barr & Co.

Thorium Nitrate—
Germany, 14 t. 2 c. T. H. Lee
" £1,225 Argo S.S. Co.

Turpentine—
Germany, 1 brl. Blandall, Spence & Co.
France, 100 J. Watt & Son

Ultramarine—
Holland, 7 cks. E. Foley & Co.
" 5 pks. W. H. Muller & Co.
" 5 cs. "
" 4 cks. L. Barber & Co.
" 1 cs. W. Harrison
Germany, 2 cks. 5 cs. Argo S.S. Co.

Wax—
Germany, 70 pks. T. H. Lee
" 5 bgs. "
" 59 Prop. Hay's Wf.
" 11 cs. Props. Bull Wf
" 36 pks. London & Rhine S. Office
" 19 L. & I. D. Jt. Co.
" 6 P. J. Johnson
" 16 Argo S.S. Co.
E. Indies, 10 cs. L. & I. D. Jt. Co.
Holland, 1 Shaw, Lovell & Co.
" 1 W. P. Muller & Co.
U.S.A., 5 Davis, Turner & Co.
B.W. Indies, 2 brls. De Pass & Co.
Egypt, 77 pks. Major, Field & Co.
" 12 Davis, Turner & Co.
Morocco, 7 Forwood, Bros. & Co.
France, 31 S. Figgis & Co.
" 2 Slynn, Green & Co.

White Lead—
Germany, 683 pks. W. Balchin, Ld.
Holland, 8 cks. W. H. Muller & Co.
Belgium, 67 J. L. Lyon & Co.
" 55 T. W. Farmiloe & Sons
Germany, 19 pks. Argo S.S. Co.
" 42 cs. Taylor Bros.
U.S.A., 196 "

Wolfram Ore—
Straits, 1 t. Major & Field

Zinc Ashes—
Norway, 2 t. H. Johnson, Son & Co.

Zinc Ore—
Japan, 125 t. H. Grey, jun.
P. E. Africa, 21 Fielder, Hickmann & Co.

Zinc Oxide—
Holland, 106 brls. M. Ashby, Ld.
" 28 cks. "
" 10 Felton & Crepin
" 20 F. T. H. Nye
U.S.A., 800 brls. M. Ashby, Ld.
Germany, 50 "
" 200 cks. Litchfield & Soundy
" 200 London & Rhine S. Office

Zinc White—
Germany, 125 cks. Spies, Bros. & Co.
Belgium, 2 A. Zumbeck & Co.

LIVERPOOL.

Week ending September 5.

Acetic Acid—
Rotterdam, 14 pks.

Aluminium—
Quebec, 755 bxs. British Aluminium Co.

Ammonia—
Rotterdam, 32 cks.

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Antimony Ore—
Melbourne, 1,105 bgs.

Arsenic—
Melbourne, 40 cks.

Barytes—
Rotterdam, 414 pks.

Beeswax—
Hamburg, 5 cs.
Boston, 12

Calcium Carbide—
Christiania, 18 bxs. C. Bingham

Castor Oil—
Calcutta, 200 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 3 cks.
Rouen, 18 Co-op. W'sale Soc.

Citric Acid—
Bordeaux, 4 cks.

Colours—
Rotterdam, 15 pks.
Brisbane, 2 cs.
Hamburg, 4 cks.

Copperas—
Bremen, 17 cks.

Cottonseed Oil—
New York, 190 brls.

Cream of Tartar—
Marseilles, 12 brls.
Bordeaux, 32 cks.

Dyestuffs—
Bark Extract
New York, 53 brls. American Extract Co.
Quebracho Extract
B. Ayres, 900 bgs.
Tannin Extract
Bordeaux, 150 cks.

Farina—
Rotterdam, 150 bls.

Felspar—
Stettin, 200 bgs.
Christiania, 22 W. Varcoe & Son

Ferro Silicon—
Gothenburg, 25 cks.

Glue—
Hamburg, 40 bgs.
Marseilles, 40 Grove Chem. Co.
,, 57 bls.

Gluestock—
Sydney, 33 brls.
Marseilles, 600 bgs.

Glucose—
New York, 660 brls. Corn Products Co.
,, 330

Glycerine—
Rotterdam, 50 dms.

Lactic Acid—
Rotterdam, 10 cks.
Boston, 60 brls.

Lithopone—
Rotterdam, 200 cks.
Stettin, 37

Magnesite—
Rotterdam, 100 bgs.

Manganese Ore—
Calcutta, 650 t.

Manganese Silico—
Bordeaux, 122 cs.

Olive Oil—
Marseilles, 41 cs. / 2 cks. 400 bskts.

Paraffin Scale—
New York, 660 brls. Anglo-American Oil Co.

Phosphate—
Ghent, 600 t.

Potash—
Hamburg, 30 dms.
Bremen, 40

Potash Lye—
Hamburg, 25 dms.

Potassium Carbonate—
Hamburg, 8 cks.

Pyrites (Iron)—
Huelva, 59 t.

Red Lead—
Rotterdam, 28 cks.

Rosin—
Fernandina, 700 brls.
Savannah, 1,200
Pasages, 349 cks.
,, 271 R. Sevita & Co.
Seville, 130
Bordeaux, 337

Rubber—
Hamburg, 82 pks. 20 bls.
Accra, 2 F. & A. Swaney
New York, 7 cs. M. Suarez & Co.
,, 188 bgs. Meyer & Busswelier
,, 57 cs. 7 bls.
Iquitos, 412 1,206 bgs.
C. Cocha, 48
Pernambuco, 8
Addah, 1 ck. Pickering & Berthoud
Lahou, 11 R. & W. King
,, 4 Cie Franc. de K.
Sierra Leone, 5 2 pks.
,, 1 Cie Franc. de K.
,, 1 Pickering & Berthoud
Bathurst, 4 A. Cros & Co.
,, 3 Bathurst Tdg. Co.
Ambrizette, 5 pks. Hatton & Cookson
Matadi, 117 ,,
Boma, 17 ,,
Duala, 1 J. Holt & Co.
Calabar, 3 T. Welsh & Co.
,, 2 A. Miller Bros. & Co.
,, 4 African Assoc., Ld.
,, 1 ck. Matthiessen & Co.
C. C. Castle, 1 pk. Millers Ld.
,, 1 Fischer & Co.
,, 1 Russell & Co.
Sekondi, 6 Pickering & Berthoud
,, 4 Millers Ld.
,, 1 Fischer & Co.
Parahyba, 16 brls.
Antwerp, 30 bgs.
Manaos, 283 cs.
Para, 590

Salt—
Hamburg, 450 t.

Saltpetre—
Hamburg, 135 bgs. / 24 cks. / 200 kgs.

Salt (Waste)—
Hamburg, 3,000 bgs. / 20 t.

Soap—
Boston, 17 cs.
Bordeaux, 3
New York, 25 pks.
Marseilles, 6 J. Thompson & Co.
,, 242 F. J. Smith
,, 393

Starch—
Ghent, 45 cs. Fletcher & Co.
New York, 10 brls. J. Armstrong & Co.
,, 210 bgs. Corn Products Co.
Philadelphia, 55 brls.
Bremen, 460 pks.
Hamburg, 100
Boston, 11

Stearine—
Rotterdam, 7 pks.
Antwerp, 63 bgs.

Tallow—
Sydney, 99 cks. Bank of N.S.W.
,, 87 Co-op. W'sale Society
Phila'phia, 165 tres.
Seattle, 319 brls.
Tacoma, 300
New York, 5 Swift & Co.
,, 50 200 hhds.
B. Ayres, 106 pps.

Turpentine—
Fernandina, 1,250 brls.
Savannah, 2,150

Ultramarine—
Hamburg, 10 cs.

Wax—
Philadelphia, 645 brls.
Lisbon, 17 pks.

Wax—
Hamburg, 11 cs. / 12 bgs.
Pernambuco, 192
Bathurst, 17 bls. A. Cros & Co.
New York, 2,080 brls.

Wax (Scale)—
Baltimore, 125 brls.

White Lead—
Rotterdam, 170 cks.

Zinc Chloride—
New York, 150 brls.

Zinc White—
Rotterdam, 14 cks.

MANCHESTER.

Week ending September 7.

Acetic Acid—
Antwerp, 2 cks. 16 cbys.

Alum (Chrome)—
Antwerp, 6 cks.

Alumina Sulphate—
Antwerp, 50 bgs. Fletcher & Co.

Barytes—
R'tterdam, 2 cks. / 200 bgs.
Antwerp, 20

Calcium Carbide—
Porsgrund, 420 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 30 cks.2 cs.
Rotterdam, 20 kgs.

Coal Products—
Alizarine
R'tterdam, 29 brls. / 59 cks.
Aniline
Antwerp, 19 cks.
Aniline Oil
Rotterdam, 6 dms.
Aniline Salt
Rotterdam, 56 cks.
Creosote
Rotterdam, 17 cks.

Colours—
Hamburg, 2 cks.5 cs.
Rotterdam, 63 17 / 142 brls.

Dyestuffs—
Indigo Paste
Rotterdam, 25 cks.

Farina—
Rotterdam, 3,600 bgs.

Formaldehyde—
Antwerp, 3 bskts. Fletcher & Co.

Glue—
Hamburg, 15 bgs.8 cs.
Rouen, 12 Co-op. W'sale Society
Rotterdam, 20 30
Antwerp, 120 bls.

Glue Stock—
Hamburg, 69 bgs.

Litharge—
Rotterdam, 12 cks.
Rouen, 10 Co-op. W'sale Society

Lithopone—
Rotterdam, 20 cks.

Magnesium Carbide—
Hamburg, 20 cks.

Oxalic Acid—
Hamburg, 10 bgs.

Potash—
Hamburg, 9 cks. 20 dms. / 10 cs.

Potassium Prussiate—
Antwerp, 2 cks.

Red Lead—
Rouen, 10 cks. Co-op. W'sale Society
Rotterdam, 16

Salt—
Hamburg, 4 cks.

Salt (Waste)—
Hamburg, 300 t.

Sodium Acetate—
Antwerp, 36 cks. Fletcher & Co.

Sodium Phosphate—
Antwerp, 17 cks.

Starch—
Antwerp, 72 cs. Fletcher
320 & Co.
Hamburg, 162
Rotterdam, 100

Stearine—
Antwerp, 63 bgs.

Tallow—
Boston, 150 tres.

Tannic Acid—
Hamburg, 4 cks.

Tin Chloride—
Rotterdam, 21 cks.

Ultramarine—
Rotterdam 10 cs. 5 pks.

Zinc Oxide—
Antwerp, 40 brls. Fletcher & Co.

Zinc White—
Rotterdam, 38 cks.

HULL.

Week ending September 7.

Antimonin—
Rotterdam, 4 cks. Hull & N. S.S. Co.

Asbestos—
Riga, 10 pks.

Barytes—
Antwerp, 138 cks. / 300 bgs.
,, 50
Bremen, 20 cks. Veltmann & Co.
Rotterdam, 51 Hull & N. S.S. Co.

Calcum Carbide—
Drontheim, 43 dms.

Chemicals (*otherwise undescribed*)
Dunkirk, 100 cks. Woodhouse & Co.
Ghent, 50 bgs.
Trieste, 20 brls. Wilson, Sons & Co.
Rotterdam, 2 5 cs. Hull & / 2 cks. N. S. S. / 5 dms. Co.

Coal Products—
Alizarine
Rotterdam, 9 pks. Hull & N.
4 brls. S.S. Co.
Aniline
Rotterdam, 402 pks.3 cs. Hull
6 dms. & N. S.S. Co.
,, 32 cks.8 cs. H. & B. Rly. S.S. Line
Antwerp, 125 pks. Wilsons & N.E. R. S. Co.
Naphthaline
Ghent, 18 bgs.
Tar Oil
Rotterdam, 80 cks. Hull & N. S.S. Co.

Colours—
Rotterdam, 21 pks. Hull & N. S.S. Co.
Bremen, 4 cks. Veltmann
8 cs. & Co.

Cream of Tartar—
Genoa, 2 cks. Wilson, Sons & Co.
Rotterdam, 8 Hull & N. S.S. Co.

Dyestuffs—
Sumac
Smyrna, 240 bls.

Farina—
Harlingen, 250 bgs. Hull & N. S.S. Co.

Ferro Silicon—
Antwerp, 58 cs. Wilsons & N.E. R. S. Co.

Fish Oil—
Bergen, 25 brls. Wilson, Sons & Co.

Glue—
Antwerp, 59 brls.
Christian's'nd, 30 cks. Wilson, Sons & Co.

Lithopone—
Rotterdam, 30 cks. Hull & N. S.S. Co.

Oleine—
Dunkirk, 10 dms.

Olive Oil—
Bari, 3 cks. / 20 cs.
Smyrna, 225 brls.

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Paraffin Wax—
New York, 47 brls.

Phosphate—
Hamburg, 2,030 bgs.

Potash—
Hamburg, 50 pks.
Novorossisk, 258 brls.

Potassium Muriate—
Hamburg, 200 bgs.

Red Lead—
Rotterdam, 42 cks. Hull & N. S.S. Co.

Rosin—
Bordeaux, 70 cks. Helmsing & Son

Soda—
Ghent, 50 bgs.

Starch—
Harlingen, 100 pks. Hull & N. S.S. Co.
Antwerp, 160 cs.
Ghent, 123
Bremen, 1,300 5bgs. Veltmann & Co.

Talc—
Genoa, 100 bgs.

Tallow—
Antwerp, 5 bgs. Wilsons & N.E. R. S. Co.

Tartaric Acid—
Genoa, 5 cks.
Bari, 71 brls.

Tin Oxide—
Rotterdam, 8 cks. Hull & N. S.S. Co.

Ultramarine—
Rotterdam, 20 cks. Hull & N. S.S. Co.

White Lead—
Rotterdam, 113 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending September 12.

Acetic Acid—
Rotterdam, 16 blns.

Aluminium Chloride—
Rotterdam, 2 cs.

Asbestos—
Genoa, 33 pks.

Barium Sulphate—
Antwerp, 97 cks. 700 bgs.

Barytes—
Rotterdam, 9 cks.

Calcium Carbide—
Gothenburg, 320 dms.
Drontheim, 460

Carbonate of Lime—
Marseilles, 34 cs.

Carbon Tetrachloride—
Marseilles, 34 djns.

Castor Oil—
Leghorn, 15 cs.
Bombay, 20
Marseilles, 15 cks.5

Chemicals (*otherwise undescribed*)
Rotterdam, 1 cs.

Coal Products—
Creosote Salt
Rotterdam, 10 cks.

Colours—
Rotterdam, 39 pks.
Hamburg, 7
Antwerp, 9

Copper Sulphate—
Rotterdam, 1 brl.

Cottonseed Oil—
Rotterdam, 20 brls.

Dyestuffs—
Myrabolans
Calcutta, 1,000 pks.

Farina—
Amsterdam, 2,092 bgs.

Fish Oil—
Genoa, 120 brls.
Roseau R.V. 904 cks. J. Murray & Son

Glucose—
New York, 600 brls.

Glue—
Rouen, 4 cks. 60 bgs.

Lead Nitrate—
Rouen, 10 cks.

Linseed Oil—
Amsterdam, 84 brls.

Magnesite—
Rotterdam, 10 brls.
Amsterdam, 300 bgs.

Oleine Oil—
Leghorn, 300 bxs. 12 cs.
Marseilles, 651 2 cks.

Potash—
Hamburg, 40 cks.

Rosin—
Rotterdam, 23 t.

Soap—
Genoa, 140 cs.
Marseilles, 5

Soap Powder—
New York, 1,200 bxs.

Soda Crystals—
Antwerp, 40 bgs.

Sodium Chlorate—
Antwerp, 8 brls.

Starch—
Rotterdam, 5 kgs.
Amsterdam, 25 bgs.

Stearine—
Gothenburg, 80 brls.

Wax—
Philadelphia, 100 brls.
New York, 330

White Lead—
Rotterdam, 84 cks.

Zinc Oxide—
Antwerp, 12 brls.

Zinc White—
Rotterdam, 58 cks.8 cs.

TYNE.

Week ending September 7.

Acid (*otherwise undescribed*)—
Antwerp, 25 cks. J. Arnott & Son

Aluminium—
Hamburg, 4 cks. Tyne S.S. Co.

Antimony—
Hamburg, 908 bars. Tyne S.S. Co.

Antimony Ore—
Hamburg, 212 bgs.

Barytes—
Rotterdam, 20 cks. Tyne S.S. Co.

Calcium Carbide—
Trondhjem, 300 dms. P. H. Matthiessen

Colours—
Rotterdam, 1 ck. Tyne S.S. Co.

Cream of Tartar—
Rotterdam, 1 ck. Tyne S.S. Co.

Phosphate—
Antwerp, 340 t. Langdale's Chem. Manure Co.

Starch—
Hamburg, 10 cs. Tyne S.S. Co.
Antwerp, 40 J. Arnott & Son

Stearine—
Rotterdam, 10 bgs. Tyne S.S. Co.
Antwerp, 13 J. Arnott & Son

Tartar—
Rotterdam, 2 cks. Tyne S.S. Co.
Hamburg, 2 ,,

White Lead—
Rotterdam, 18 cks. Tyne S.S. Co.

GOOLE.

Week ending September 7.

Barytes—
Hamburg, 40 cks.

Caustic Potash—
Boulogne, 58 dms.

Chemicals (*otherwise undescribed*)
Boulogne, 915 bgs.
Antwerp, 1 cs.
Hamburg, 72 cks. 1
R'tterdam 8 bgs. 8 cs.

Coal Products—
Alizarine
Rotterdam, 1 brl.
Aniline Colours
Rotterdam, 30 cks. 1 pp. 38 cs.

Colours—
Hamburg, 4 cks.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 4 cks.
Boulogne, 10 1 cs.
Hamburg, 158 43
R'terdam, 556 60 50 bgs.

Farina—
Delfzyl, 550 bgs.

Formic Acid—
Hamburg, 4 cs. 8 cbys.

Magnesite—
Antwerp, 100 bgs.

Oleine—
Rotterdam, 2 cks.
Dunkirk, 8

Plumbago—
Boulogne, 5 cs.

Potash—
Hamburg, 50 dms.

Saltpetre—
Hamburg, 40 cks.

Salt (Waste)—
Hamburg 100 t. 221 cks.

Sodium Hydrosulphite—
Boulogne, 3 cks.

Starch—
Hamburg, 120 cs.

GRIMSBY.

Week ending September 4.

Acetic Acid—
Rotterdam, 7 djns.

Barytes—
Rotterdam, 110 bgs.

Colours—
Rotterdam, 11 pks.
Antwerp, 113

Gelatine—
Hamburg, 2 cs.

Starch—
Antwerp. 115 cs.

Stearine—
Antwerp, 80 bgs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 11.

Ammonia—

Durban,	15 cs.	£22
Fremantle,	12	18
Calcutta,	4 cks.	10
H. Kong,	4	6
P. Elizabeth,	5	7
C. Town,	35	52
Sydney,	20	62
Delagoa Bay,	15	36
Malta,	10	15
B. Ayres,	4	7
E. London,	3	9
Algoa Bay,	10	15
Karachi,	3	9
Perth,	11	33
Gisborne,	2	6

Ammonia (Anhydrous)—

Calcutta,	10 cs.	£80

Ammonium Carbonate—

Havana,	10 cks.	£85
Hamburg,	4 10 brls.	57
Bombay,	26 cs.	52
Penang,	15	25
B. Ayres,	20	53
Dunedin,	3	6

Ammonium Muriate—

Brussels,	1 t. 19 c.	£42

Ammonium Muriate—

P. Mexico,	16 c.	£32

Ammonium Nitrate—

Cape Town,	2 cs.	£6

Ammonium Sulphate—

Mauritius,	300 t.	£3,713
Kobe,	300	3,585
Yokohama,	200	2,400
Wellington,	50 17 c.	166

Antimony (Regulus)—

Antwerp,	1 t.	
Kobe,	1	
New York,	10 4 c.	
Rotterdam,	16	

Arsenic—

Yokohama,	25 kgs.	£44
Durban,	16 dms.	10

Asbestos—

Madras,		£17

Barium Binoxide—

Newport, M.,	4 t. 8 c.	£150

Bleaching Powder—

Hong Kong,	20 jars	£7
Singapore,	12	5

Bisulphite of Lime—

Brussels,	3 t. 5 c.	£9

Boracic Acid—

Auckland,	10 c.	£15

Borax—

Rotterdam,	1 t. 17 c.	£81
Beira,	2 2	63
Brisbane,	4 5	175
Montreal,	25	375

Bromide Salts—

Fremantle,	40 cks.	£532

Calcium Carbide—

Lyttelton,	1 t. 10 c.	£40
Wellington,	3	35

Carbon Bisulphide—

Dunedin,	40 dms.	£25

Caustic Potash—

Bombay,	1 t.	£28

Caustic Soda—

Singapore,	6 c.	£5
Sulina,	16	16
Bilbao,	10	11
Townsville,	7	6
Napier,	5 t. 2	55
Brisbane,	7	10

Chemicals (*otherwise undescribed*)

Melbourne,	1 cs.	£14
Brisbane,	10 cks.	15
Ghent,	5 1	70
Montreal,	3	10
Callao,	8	5
Valparaiso,	1	6
Bermuda,	1	5

Chemicals (*otherwise undescribed*)

Hamburg	10 cks. 3 cs.	5 dms. £169
Karachi,	1	5
St. Petersburg,	14 pks.	148
Algoa Bay,	1 cs.	14
Calcutta,	1 12	36
Beira,	5 kgs. 4	14
Rangoon,	32 pks.	13
Cologne,	5 cs.	90
Sydney,	130	110
Grenada,	1	12
Madras,	1	7
Alexandria,	1	5
E. London,	20	9
Karachi,	6 pks.	116
Rotterdam,	10 cks. 1 cs.	37
Delagoa Bay,	13 pks.	40
Genoa,	2 cs.	46
Bremen,	1	55

Citric Acid—

Karachi,	2 cs. 3 c.	£27
Delagoa Bay,	1	7
Gibraltar,	1	10
Alexandria,	2	21
E. London,	1	5
St. Johns,	1 kg.	12
H. Kong,	4	49
Cologne,	1	13
Havana,	10	10

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Coal Products (*otherwise undes.*)–
Brisbane, 25 cs. £5

Coal Products—
Alizarine
Bombay, 292 cks. £968
Dunedin, 7 kgs. 124
Aniline
Dunedin, 5 cks. £115
Aniline Dye
Sydney, 1 cs. £9
Philadelphia, 2 kgs. 12
Boulogne, 1 ck. 5 pks. 79
Anthracene
Cologne, 275 cks. 400 bgs. £815
Hamburg, 71 215
Benzol
Hamburg, 25 cks. £37
Treport, 32 49
Rotterdam, 120 200
Carbolic Acid
Amsterdam, 75 cks. £255
Algoa Bay, 2 cs.24 dms. 19
Nassau, 3 brls. 7
Rotterdam, 174 cks. 663
Carbolic Acid (Crystals)
Yokohama, 100 cks. £256
Creosote
Napier, 12 cks. £18
Penang, 2 6
Creosote Oil
Boston, 25 cks. £46
Naphtha
Lyttelton, 25 dms. £12
Naphthaline
Sydney, 90 cs. £82
Pitch
Calcutta, 16 cks. £21
Brisbane, 11 pks. 5
Philadelphia, 78 315
Madeira, 2 5
Dunkirk, 280 t. 378
Tar
Brisbane 10 kgs.3 cs. 70 dms. £38
Algoa Bay, 430 37
Auckland, 30 6
Tar Oil
Boston, 250 cks. £182

Copper Sulphate—
Calcutta, 5 t. £147
B. Ayres, 1 19 c. 38
Lisbon, 13 10 370
Antigua, 6 10

Cottonseed Oil—
Dunkirk, 13 t. 16 c.
Marseilles, 19 8
Bordeaux, 36 7
Adelaide, 3 11
Antwerp, 5
Rotterdam, 8 13

Cream of Tartar—
Fremantle, 15 c. £68

Cyanide (*otherwise undescribed*)—
Melbourne, 2 t. 10 c. £19
Mazatlan, 10 868
Delagoa Bay,14 10 1,161
Beira, 3 16 304
Brisbane, 1 6 110
Townsville, 2 170

Disinfectant—
Colombo, 20 dms. 51 cks.9 cs. £60
H. Kong, 17 29
New York, 10 brls. 176
Durban, 3 205 85
Algoa Bay, 5 cks.2 100 39
Fremantle, 10 20 25 102
Cologne, 10 180
Hiogo, 60 33
Penang, 155 81
Singapore, 251 pks. 220 99
Cape Town, 42 10
P. Elizabeth, 100 21
E. London, 100 21
Bombay, 40 5
Adelaide, 6 50 47
Antigua, 5 cks. 35
H. Kong, 300 23
Madras, 5 8
Perth, 5 10 33
Melbourne, 10 13
C. Town, 3 11
Rangoon, 50 15
Galatz, 1 20
Antwerp, 3 10
Montreal, 10 60
Hobart, 5 50
Cologne, 5 90
Launceston, 2 6
Rangoon, 10 50
Karachi, 634 pks. 400 113

Disinfectants—
Demerara, 2 cs. £6
Dunedin, 5 20
Lisbon, 2 19
Sydney, 26 pks. 50
St. Petersburg,8 28

Dried Blood—
Mauritius, 48 t. 19 c. £498

Fertiliser—
Penang, 1 cs. £6
Rouen, 275 t. 8 c. 800
Rochefort, 194 15 750
Dunedin, 85 255
Wellington, 150 450

Formic Acid—
Lyttelton, 3 cks. £28

Glycerine—
Vera Cruz, 18 c. £45
Durban, 8 23
Algoa Bay, 5 29
Lisbon, 7 19
Karachi, 4 10

Gold Chloride—
Shanghai, 1 cs. £33

Guano—
Havana, 40 t. £264
Kobe, 280 5 c. 2,036
Yokohama, 100 1 725

Gypsum—
Jersey, 8 t. £10

Hydrocarbon—
Brussels, 13 dms. £8

Hydrogen Peroxide—
Fremantle, 1 cs. £3
Adelaide, 2 7

Linseed Oil—
Alexandria, 2 t.
Auckland, 5 19 c.
Colombo, 1 14
Constanti'ple, 3 7
Delagoa Bay, 3 18
Durban, 4 11
H. Kong, 3 2
Melbourne, 27
San Sebastian, 7
Sydney, 8
Tampico, 2 8
Vera Cruz, 10 7
Yokohama 2 15
Montreal 8 13
Otago, 3 16
Perth, 4
Pernambuco, 1 1
P. Elizabeth, 1 15
Rio de Jan., 17 14
Sandakan, 5
Singapore, 1 15
Townsville, 2 4
Wanganui, 3
Wellington, 1 1
Fremantle, 4
St. Johns, N'fld., 6 16
Kobe, 4
St. John, N.B.,1 8
Rouen, 4
Brisbane, 14
Broome, 2
B. Ayres, 2 19
Calcutta, 3 8
C. Town, 12
Gibraltar, 11
Grenada, 8
Kobe, 2 1
Malta, 17

Manganese Bronze—
Amsterdam, 1 t. 9 c.

Manure—
Havana, 105 t. £565
Lisbon, 695 8 c. 1,850
Channel Is., 17 70
Bermuda, 25 185
Trinidad, 50 138
Auckland, 2 18

Muriatic Acid—
St. Lucia, 1 t. 19 c. £17
Madras, 1 14

Nickel Salts—
Melbourne, 6 cs. £43

Nitric Acid—
Adelaide, 9 c. £16
Savannah, 4 5

Oxalic Acid—
Dunedin, 2 cks. £23

Pearl Ash—
Auckland, 2 t. 2 c. £39

Phosphoric Acid—
Demerara, 5 cks. £20

Phosphorus—
Bombay, 7 cs. £53
Adelaide, 10 66
Sydney, 23 152
Napier, 1 7
B. Ayres, 3 48

Plumbago—
Le Treport, 1 t.

Potash—
Melbourne, 3 t. 5 c. £131
New York, 9 31

Potassium Carbonate—
Bilbao, 4 c. £6

Potassium Chlorate—
Dunedin, 1 t. £32
Callao, 4 c. 8

Potassium Cyanide—
Calcutta, 5 c. £22
Madras, 5 21
H. Kong, 9 43

Potassium Iodide—
Durban, 1 cs. £15
Bombay, 1 c. 46

Potassium Prussiate—
Melbourne, 5 c. £20

Potassium Silicate—
Bilbao, 10 c. £9

Quinine—
Calcutta, 17,500 ozs.
Colombo, 15,300
Constanti'ple, 1,400

Salammoniac—
Maryborough, 3 c. £7
Melbourne, 5 12
Trebizonde, 12 24

Salt—
Delagoa Bay, 1 t.
Townsville, 73

Saltcake—
Oldenburg, 152 t. £228
Ghent, 145 3 c. 250
Stockholm, 4 18 7

Saltpetre—
B. Ayres, 4 cks. £6
Delagoa Bay, 5 kgs. 6
Lyttelton, 16 40 brls. 100
Santos, 2 t. 54
Melbourne, 6 1 c. 153
Sydney, 4 103
Gibraltar, 12 5 288

Sheep Dip—
Algoa Bay, 100 dms. £22
C. Town, 1,000 150
Dunedin, 55 2 t. 5 c. 126
B. Ayres, 18 14 525
M. Video, 12 25
Montreal, 3 pks. 6

Silver Nitrate—
Bombay, 1 cs. £6
Calcutta, 1 46

Soap—
Alexandria, 5 t. 9 c.
Amoy, 1
Antwerp, 19
Auckland, 11
Bangkok, 6
Beira, 1
Boulogne, 16
Bushire, 2
Calcutta, 12
C. Town, 9
Channel Is., 10
Chimde, 6
Colombo, 2 10
Bremen, 6
Barbadoes, 4
Flushing, 2
Sydney, 1 6
Adelaide, 1
Bombay, 2 11
Broome, 3
B. Ayres, 17
Calcutta, 1 14
Canaries, 5
Christchurch, 8
Colon, 1
Demerara, 5
Delagoa Bay, 1
Durban, 2 7
H. Kong, 1 2
Karachi, 2 4
Limon, 3
Penang, 2
St. Johns, N'fld., 3
Shanghai, 4
Vera Cruz, 6
Singapore, 1
Wellington, 1 5

Soap—
E. London, 5 c.
Fremantle, 1
Genoa, 16
Ghent, 4
Hamburg, 13
Madras, 1 t. 19
Melbourne, 8 4
Otago, 2
Pernambuco, 2
P. Elizabeth, 2 13
Rotterdam, 1 11
St. Petersburg, 3
San Sebastian, 1
Smyrna, 5
Swakopmund, 4
Sydney, 1 1
Trinidad, 5 19
Zante, 4

Soda—
Amsterdam, 1 t. £9

Soda Salts—
Constanti'ple, 3 c. £18

Sodium Bicarbonate—
H. Kong, 2 t. £13
Limon, 1 2 c. 6
Smyrna, 3 7
Calcutta, 9 15
St. Johns, N'fld., 15 6
Paris, 5 8 40

Sodium Bisulphite—
Paris, 10 c. £12

Sodium Carbonate—
Fremantle, 10 c. £7

Sodium Cyanide—
Fremantle, 4 t. £335
Townsville, 10 906

Sodium Hyposulphite—
Hamburg, 3 t. 4 c. £13

Sodium Sulphide—
Wellington, 2 t. 10 c. £19

Starch—
Dunedin, 4 t.
St. Johns,N'fld., 6 c.
Channel Is., 16
Christiania, 3 2
Delagoa Bay, 9
E. London, 5
Fremantle, 1 18
Karachi, 1 8
P. Elizabeth, 4 11
Sydney, 7 3

Sulphur—
B. Ayres, 6 t. 6 c. £740
P. Elizabeth, 2 5 16
Jamaica, 1 1 9

Sulphuric Acid—
Shanghai, 1 t. 18 c. £15
Adelaide, 11 14
Beira, 2 18
Bangkok, 2 35
Dominica, 2 7
Fremantle, 4 15
Demerara, 12 10 78

Superphosphates—
Mauritius, 98 t. 5 c. £329
Jersey, 100 238
Mossel Bay, 10 33
Demerara, 85 555
Lisbon, 250 579
Azores, 22 3 65
Kobe, 16 432

Sulphate of Lime—
Delagoa Bay,16 cks. £10

Tallow—
Amsterdam, 5 t. 2 c.
Rotterdam, 51 8
Toronto, 1 14
Hamburg, 10
Danzig, 3 16
Madras, 1 17
Riga, 9 17

Tartaric Acid—
Vancouver, 1 c. £5
Santiago, 1 6
Bundaburg, 1 6
Durban, 1 5
Antwerp, 10 49
Havana, 10 49
Las Palmas, 1 7

White Lead—
Brisbane, £27
H. Kong, 26
Auckland, 357
Delagoa Bay, 77
New York, 122
Otago, 2
P. Elizabeth, 11
Sydney, 285

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LIVERPOOL

Week ending September 11.

Acetic Acid—
Para, 1 c. £2
Vera Cruz, 9 12
Frontera, 1 5

Alum—
Hamburg, 1 t. 14 c. £10
Durban, 9 3
Callao, 1 7 8
Corumba, 12 3
Algoa Bay, 1 19 10
Calcutta, 2 10 13
Manaos, 1 ck. 1

Alumino Ferric—
Natal, 20 t. 2 c. £70

Aluminous Sulphate—
Calcutta, 25 t. £71

Ammonia (Anhydrous)—
Zarate, 1 t. 10 c. £135
Para, 2 9
Bombay, 5 28

Ammonium Carbonate—
Melbourne, 1 t. £32
S. Sebastian, 1 30
Stockholm, 1 19 c. 69
Barcelona, 1 6 41

Ammonia Liquid—
Coquimbo, 1 c. £5
B. Ayres, 2 6

Ammonium Muriate—
Rouen, 1 t. 1 c. £226
Alexandria, 4 10 108
Amsterdam, 19 23
Cairo, 1 24
Genoa, 3 10 84
Algoa Bay, 1 1
Varna, 6 7

Ammonium Sulphate—
Alicante, 30 t. £343
Baltimore, 25 5 c. 293
New York, 85 12 1,007
Valencia, 110 5 1,308
Teneriffe, 28 2 436
Las Palmas, 57 7 1,876
Phila'phia, 143 14 600
Oporto, 10 1 120
Kobe, 88 18 1,009
Yokohama, 59 12 773
Shanghai, 5 60
Lisbon, 74 18 805
H. Kong, 10 120
Cartagena, 30 7 352

Ammonium Sulphite—
Las Palmas, 14 t. £166
Teneriffe, 3 36

Antimony—
Canada, 50 cks.
Baltimore, 50

Antimony Sulphate—
New York, 1 t. £60

Arsenic—
Copenhagen, 4 c. £6
Shanghai, 18 26
Naples, 11 18

Asbestos—
Rio de Jan., 2 cs.
Alexandria, 2

Barytes—
St. Johns, 19 c.

Basic Slag—
Quebec, 19 t. £55
Oporto, 250 375

Bleaching Powder—
Bombay, 55 cs. 9 dms.
Boston, 891 cks.
Montreal, 160
New York, 160
Philad'phia, 258
Salonica, 12
Valparaiso, 350
Vera Cruz, 35
Baltimore, 39
Calcutta, 708
Hiogo, 10
Maranham, 10
Portland, 669
Sagua la Grande, 22 kgs.
Shanghai, 336 cs.
Beira, 5 bxs.
Delagoa Bay, 360 dms.

Boiler Disincrustant—
Calcutta, 20 dms.

Borax—
Bombay, 10 c. £9
Frontera, 10 9
Rangoon, 2 t. 34
Boston, 11 17 122
Sagua la Grande, 3 2
Teneriffe, 1 1

Borax—
Adelaide, 10 c. £8

Calcium Carbide—
Montreal, 12 c. £2

Calcium Carbonate—
Vera Cruz, 18 c. £2

Calcium Chloride—
Rouen, 10 t. 10 c. £19
Calabar, 16 2
Leghorn, 10 1 26
Genoa, 9 19 20
Para, 1 11 3
Venice, 10 20
Rangoon, 17 5 44
Moulmein, 4 1
Libau, 1 13 4
Christiania, 1 1 3

Calcium Sulphydrate—
Antwerp, 10 t. 5 c. £43

Carbonate Lime—
Coquimbo, 2 c. £2

Carbonic Acid Gas—
Porto Nova, 2 c. £9

Casein—
Rotterdam, 100 bgs.

Castor Oil—
C. Coast, 1 cs.
Durban, 120
Rosario, 6 brls.

Caustic Potash—
Sydney, 2 t. £59
Melbourne, 3 c. 5
Manaos, 2 2

Caustic Soda—
Adelaide, 30 cs. 14 dms.
Auckland, 18
Barbadoes, 6
Bari, 18
Bombay, 11 brls. 10
Boston, 100
Calcutta, 8
C. Town, 119
Catania, 18
Christiania, 5
Copenhagen, 10 bxs.
Delagoa Bay, 17
Dunedin, 30
Durban, 186
Galatz, 780
Genoa, 163
Greymouth, 10
Hamburg, 10
Havana, 220
Kobe, 346
Lisbon, 60
Lyttelton, 66
Mazatlan, 118
Montreal, 175
Naples, 120 91
N. Orleans, 24 57
Para, 8 brls.
Progresso, 175
Santander, 10
Talcahuano, 20
Tarragona, 55 cks.
Turin, 3
Tunis, 150
Valparaiso, 50
Varna, 75
Vera Cruz, 114 193
B. Ayres, 35
Alexandria, 75
Barcelona, 102 120
Beira, 20
B. Ayres, 100
Cartagena, 30 239
Ceara, 119
Coronal, 32
Delagoa Bay, 38
Fiume, 159
Hiogo, 43 pks. 271
Karachi, 95
Leghorn, 88
Madras, 40
Malaga, 30
Maracaibo, 30
Maranham, 50
Melbourne, 50 110
Moji, 40
New York, 160
P. Elizabeth, 100
P. Alegre, 10 bxs.
Rio de Jan., 15
Rotterdam, 113
Sagua la Grande, 20
Sarawak, 300
Shanghai, 17
Sousse, 5
Sydney, 272
Tampico, 395
Venice, 33

Chalk—
P. Arenas, 50 bgs.
Bombay, 29 cs.

Chemicals (*otherwise undescribed*)
Venice, 30 pks. £45
Santos, 14 c. 19
Madras, 422 1,690
Ancona, 2 t. 3 c. 33
Bari, 10 8
Rotterdam, 5 65
Yokohama, 2 10 97
Stettin, 10 cks. 86
Ronneby, 59 403
Rangoon, 2 cs. 6
Hamburg, 8 59
Montreal, 100 65 brls. 665
Prevesa, 1 3
Salonica, 7 40
Trieste, 10 38
Fremantle, 40 320
Batavia, 100 dms. 168
Samarang, 12 26
Rio de Jan., 10 31

China Clay—
Baltimore, 1,102 cks.
Bombay, 1,220
Genoa, 49
Leghorn, 16
Montreal, 800
N. Orleans, 100
N. York, 1,350
Opobo, 150 bgs.
Rio de Jan., 4 c.
Vera Cruz, 72
Boston, 129
Phila'phia, 608

Coal Products (*otherwise undes.*)—
Bordeaux, 19 cks.
Delagoa B., 100
Havre, 13 dms.
Manilla, 50

Coal Products—
Alizarine
Lisbon, 1 ck.
Aniline Colour
Bombay, 3 cs.
Aniline Dye
Lagos, 1 cs.
Aniline Oil
Barcelona, 35 dms.
Benzol
Para, 13 cs.
Carbolic Acid
St. Louis, 10 t. 10 c. £100
Syra, 5 9
Singapore, 3 7
Carbolic Acid (Fluid)
New York, 3 t. 10 c. £160
Carbolic Acid (Liquid
Adelaide, 1 t. 3 c. £19
Carbolic Acid (Solid)
Rouen, 5 c. £13
Yokohama, 5 t. 262
Calcutta, 3 12
Tar
Bilbao, 70 brls.
Manilla, 25 dms.

Cobalt Oxide—
Lisbon, 1 bx.

Colours—
Genoa, 42 kgs.
Hamburg, 1
Lisbon, 1
Montreal, 13 pks.
New York, 39 cs.
Opobo, 6
Rouen, 2 cks.
Antwerp, 3
Bombay, 1,143
Boston, 1
Calcutta, 190
Haiti, 1
C. Town, 4
Lagos, 1
M. Video, 10 5
Yokohama, 9

Copperas—
Vera Cruz, 1 t. £2
C. Town, 9 c. 1

Copper Sulphate—
Varna, 1 t. £27
Desterro, 4 c. 6
Calcutta, 10 1 114
Pasages, 8 19 221
Marseilles, 7 10 230
Lyttelton, 1 27
Bombay, 4 16 134
Rotterdam, 4 19 129
Gijon, 5 2 126
Santander, 4 103
Antwerp, 11 1 331
Vera Cruz, 9 17 306
Konigsberg, 1 10 45
Fairwater, 1 10 45
Libau, 5 2 150
Napier, 2 53
Galatz, 1 5 37

Copper Sulphate—
Amsterdam, 1 t. 1 c. £28
Palermo, 1 10 37
Madras, 1 10 45
Bilbao, 5 132
Lisbon, 29 19 980

Cottonseed Oil—
Oran, 35 brls.
Tangiers, 15
Algiers, 175
Assini, 2
Conakry, 5
Dakar, 65
Gibraltar, 24
Leghorn, 30
Rufiscue, 10

Cream of Tartar—
Bluefields, 2 c. £6

Dextrine—
Barcelona, 20 bgs.
Rosario, 4 cks.

Disinfectants—
Montreal, 1 t. £1
Axim, 1 1
Sierra Leone, 1 2 c. 22
Rangoon, 30 dms. 19
Tongku, 40 6
Singapore, 3 cs. 5
DelagoaBay, 200 50 bgs. 313
Sydney, 22 cks. 13
Copenhagen, 3 t. 17 c. 34
Bombay, 2 18 11
Calcutta, 1 14 30
Accra, 2 3
Durban, 1 1
Antwerp, 1 1 24
Burutu, 3 3
Montreal, 1 1
Gibraltar, 1 2
P. Elizabeth, 16 14
Lagos, 1 15 86

Dried Blood—
Las Palmas, 6 t. £58

Dyestuffs—
Dyewood
Lisbon, 10 bgs.
Dyewood Extract
Antwerp, 2 cks.
Myrabolans
Almonte, 31 bgs.
Quebracho Extract
Ancona, 9 cks.
Tanners' Extract
Antwerp, 10 cks.
Marseilles, 5
Boston, 450 brls.
Odessa, 30
Valonia
Almonte, 31 bgs.

Farina—
Rosario, 10 bgs.

Glue—
Barcelona, 8 bgs.
Bordeaux, 2 cks.
Boston, 92
Montreal, 5
Bombay, 6 cs.
Maceio, 16
Osaka, 30
Shanghai, 30 40
Valparaiso, 4
Yokohama, 40

Glycerine—
C. Town, 29 t. 12 c. £1,185
Quebec, 19 46
Perth, 2 9 115
Montreal, 4 8 209
Barcelona, 10 28
Natal, 2 6
Vandreuil, 24 10 1,079
T. Ontario, 24 6 1,154
Yokohama, 16 4 717

Glycerine (Crude)—
Phila'phia, 100 t. £3,653

Iron Oxide—
New York, 4 t. 9 c.
Rouen, 24 cks.

Lead Nitrate—
New York, 5 t. 5 c. £125

Lead Ore—
Antwerp, 10 t. 10 c.

Linseed Oil—
Adelaide, 9 cs.
Alexandria, 165 brls.
Antwerp, 4 108 dms.
B. Ayres, 20
Cartagena, 20
Dakar, 5
Genoa, 120
Havana, 75
Karachi, 6
P. Colombo,

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Linseed Oil—
New York, 12 brls.
S. Leone, 12 dms.
Salonica, 18 20
Smyrna, 2
Taku, 25
Tampico, 4
Teneriffe, 2
Adjuah, 15
Bombay, 60
C. Town, 9 36
Cebu, 50
Cephalonia, 3
E. London, 6
Gibraltar, 6
Guayaquil, 60
Hamburg, 5
Iquitos, 10
Kingston, 2
Manaos, 2
Manilla, 400
Matanzas, 10
Philadelphia, 11
P. Said, 7 cks.
Rosario, 15
Santos, 100
Sekondi, 62
Valparaiso, 200
Warri, 15

Magnesia—
Lisbon, 5 c. £26
Champerico, 3 9

Magnesite (Calcined)—
Delagoa Bay, 4 t. 19 c. £85
Frontera, 3 8
Vera Cruz, 1 1
Paris, 6 20
Guadalapara, 9 30
B. Ayres, 5 6

Magnesium Carbonate—
Troyes, 1 t. 5 c. £23
Malaga, 8 8
Paris, 19 18
Barcelona, 19 17

Magnesium Chloride—
Bangkok, 5 t. £3
Singapore, 5 3
Rangoon, 15 7
B. Ayres, 2 2 c. 6
New York, 20 1 54

Magnesium Citrate—
Vigo, 5 c. £28
Limon, 2 7

Manure—
New York, 43 t. 8 c. £422
Havre, 2 7 20
Colombo, 4 17 40
Gd. Canary, 20 247
Malaga, 7 93

Mineral White—
Vera Cruz, 80 cks.

Muriatic Acid—
Coquimbo, 1 c. £1

Nitric Acid—
Tarkwa, 2 c. £2
Coquimbo, 2 5

Oleine Oil—
Rio de Jan., 20 cks.

Olive Oil—
Montreal, 3 brls.

Oxalic Acid—
St. Louis, 4 t. 10 c. £90
Montreal, 2 4 78
Boston, 1 18 63

Paraffin Wax—
Durban, 80 brls.
Odessa, 10

Phosphorus—
Tampico, 6 c. £50
Vera Cruz, 3 25
Havana, 1 t. 8 275

Potash—
Hsin Ho Wf. 1 c. £1
Singapore, 4 2

Potassium Bichromate—
Montreal, 1 t. 3 c. £35
Bombay, 1 31
Santos, 4 11
Pernambuco, 6 13
Tampico, 3 1 94
Vera Cruz, 6 3 188

Potassium Chlorate—
Christiania, 5 t. £150
Stettin, 5 141
Hamburg, 4 8 c. —
Tampico, 7 10 200
Gijon, 1 30
Hamburg, 3 10 107

Potassium Cyanide—
P. Columbia, 1 t. 15 c. £126

Potassium Prussiate—
Bombay, 3 c. £10

Potassium Sulphate—
Quebec, 1 t. £10
Orotava, 2 20
Teneriffe, 2 20

Red Lead—
Alexandria, 30 bgs.

Rubber—
Antofagasta, 3 pks.
Antwerp, 30 bgs.
Arica, 8 cs.
Leghorn, 1
Amsterdam, 32
Canada, 1

Salammoniac—
Karachi, 2 t. 5 c. £82
Bombay, 1 35
Ronneby, 10 19
Lagos, 1 1

Salt—
Bombay, 5 t.
Conakry, 655 19 c.
Degama, 100
Durban, 240
Hamburg, 23 2
Helsingborg, 10
Iquitos, 14
Kalmar, 5
Malmo, 5
Montreal, 100
P. Madryn, 100 cs.
P. Arenas, 10
Quebec, 1,435
Rangoon, 35
St. Johns, 5
Barbadoes, 16 13
Beira, 20
Belize, 50
B. Ayres, 350
Burutu, 500
C. Town, 115 4
Havana, 200
Kribi, 44 12
Lagos, 44 6
Landana, 26 15
Manilla, 30
Melbourne, 150
N. Orleans, 450
Para, 66 19
Rotterdam, 10
Santos, 100
Shanghai, 125
Sherbro, 25
Valparaiso, 300
Wellington, 4 5
Sydney, 160

Saltcake—
Antwerp, 19 t. 2 c. £101

Saltpetre—
Columbia, 1 c. £2
Tampico, 2 4
Maranheim, 2 t. 10 63

Sheep Dip—
C. Town, 10 c. £9
B. Blanca, 8 t. 18 225
Bahia, 18 15 350
S. Francisco, 12 11 225
Algoa Bay, 12 7 243

Soda Ash—
Adelaide, 19 cs.
Amsterdam, 200 bgs.
Boston, 34 cks.
Bombay, 20 32
Cadiz, 25
Calcutta, 1,000
Genoa, 240
Havana, 8
Hiogo, 600
Melbourne, 327
Montreal, 1,846
Rio de Jan., 330
Rosario, 93
Shanghai, 1,461 cs.
Syra, 60 brls.
Vera Cruz, 140
Barcelona, 30
Ceara, 5
Gijon, 50
Karachi, 300 bgs.
Kobe, 350
La Guayra, 8
Lyttelton, 57
Maranheim, 84
P. Cabello, 10
Singapore, 25
Sydney, 109
Tampico, 500
Varna, 841
Venice, 100
Yokohama, 750

Soda Crystals—
B. Ayres, 601 cks. 100 dms. 203 kgs.
Belize, 50
Bombay, 18 brls.
Boston, 96
Gibraltar, 20
Halifax, 12 10 kgs.
P. Elizabeth, 20
Malta, 100 brls. 50 kgs.
Montreal, 199 5 cs. 1,148 bgs.

Soap—
Alexandria, 125 cs.
Antigua, 550 bxs.
Bangkok, 812
Barbadoes, 725
Belize, 600
Bombay, 972
Calcutta, 37 brls. 10 pks. 1,000 128 cs.
Calicut, 250
Canada, 85
C. Gracias, 25
C. Town, 245 260
Constanti'ple, 29
Delagoa Bay, 453 2,732
Dixcove, 150
Fiume, 56 kgs. 60
Genoa, 36 150
Gibraltar, 300
Gd. Bassa, 60
Gd. Canary, 1,049
Havre, 10
Iquitos, 4
Lagos, 203
Madeira, 47 348
Manaos, 963
Melilla, 575
Mollendo, 50
P. Elizabeth, 995 122
Quittah, 200
Rangoon, 373 1,250
River Cess, 20
S. Leone, 60
Singapore, 3,020
Smyrna, 100
Vancouver, 5 cks.
Yokohama, 300
Adjuah, 100
Alexandria 31
Assini, 50
Belize, 1,685
Beira, 7
B. Ayres, 5 226
Burutu, 20
Calabar, 107
Christiania, 550
Copenhagen. 50
Coquimbo, 27
E. London, 155
Hiogo, 100
H. Kong, 94
Hamburg, 1,574
Iquique, 226
Madras, 331 35
Malta, 81
M. Video, 30 dms.
Nassau, 89
Penang, 687 bxs.
Philadelphia, 15
Rotterdam, 540
St. Johns, 64
Shanghai, 9
Talcahuano, 100
Tangiers, 35
Tocopilla, 40
Valparaiso, 62
Winnebah, 75
Antwerp, 76
St. Johns, 16

Soap Powder—
Constantinople, 5 cs.
E. London, 30
Christiania, 150

Sodium Acetate—
Rio de Jan., 4 cks.

Sodium Bicarbonate—
Auckland, 80 kgs.
Cadiz, 80
Christiania, 40 dms.
Galveston, 300
Galatz, 13 44
Karachi, 250 bgs.
Kobe, 332
Lisbon, 250
Lyttelton, 168
Madras, 280
P. Elizabeth, 30
Shanghai, 17 168
Varna, 122 22
Yokohama, 300

Sodium Bicarbonate—
Alexandria, 20 brls. 10 cs.
Alicante, 116
Bilbao, 10 cks. 40 kgs.
Bombay, 115
Calcutta, 20 750
Halifax, 100
Hiogo, 250
Montreal, 10 100
Rangoon, 90 100
St. Johns, 100
Seville, 75
Singapore, 20
Sydney, 34
Tampico, 310

Sodium Cyanide—
Durban, 3 t. 7 c. £280

Sodium Nitrate—
Rio de Jan., 1 ck.

Sodium Prussiate—
Barcelona, 9 cks.

Sodium Silicate—
Catania, 64 brls.
Lisbon, 60
M. Video, 83
N. Orleans, 200 bgs.
Rio de Jan., 20
Bavaria, 33 cks.
Galatz, 64
Guernsey, 7
Hiogo, 19 30 pks.
Madeira, 50
Madras, 223 400 bgs.
Montreal, 25
Tangiers, 6

Sodium Silicate—
Bombay, 6 cks.

Starch—
Huelva, 5 cs.
Iquitos, 10

Stearine—
Copenhagen, 3 cs. 50 trcs.

Sulphur—
Maranham, 1 t. 9 c. £10
Havana, 1 10 9
Manaos, 2 2
Durban, 10 1 58
Algoa Bay, 10 1 113

Sulphuric Acid—
B. Ayres, 10 t. £11
Mollendo, 5 c. 5
Maranham, 2 5 24

Superphosphate—
Las Palmas, 66 t. 7 c. £165
Valencia, 173 16 427
Alicante, 99 1 255
Tarragona, 99 3 264
Teneriffe, 6 17
Lisbon, 1,410 18 3,767

Tallow—
Alexandria, 45 trcs.
Braila, 31 brls.
Maceio, 6
Pernambuco, 6
P. Colombo, 40 dms.
Vera Cruz, 7 cks.
Alexandria, 15 trcs.

Tannic Acid—
Lisbon, 5 c. £35
Rio de Jan., 5 30

Tin Crystals—
Gibraltar, 6 kgs.

Tin Oxide—
Hamburg, 15 cks.

Turpentine—
Barcelona, 6 brls.
Manilla, 30 dms.
Lanzarote, 6

Venetian Red—
N. Orleans, 100 brls.

Wax—
Rio de Jan., 2 cs.

White Lead—
New York, 184 cks.
M. Video, 65 65 kgs.
St. Johns, 10 t. 8 c.
Singapore, 5 5
Wellington, 10

Zinc Chloride—
Rotterdam, 10 c. £6
B. Ayres, 2 2

Zinc Oxide—
Maceio, 3 cks.
St. Johns, 30 brls.

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MANCHESTER.

Week ending September 11.

Aluminium Sulphate—
Alexandria, 220 bgs.
Bombay, 7½ trcs.

Ammonia—
Boston, 1 kg.

Ammonium Carbonate—
B. Ayres, 10 cs.
Montreal, 11 cks. 5 kgs.
Tunis, 1 brl.

Ammonium Muriate—
Montreal, 5 cks.

Ammonium Sulphate—
Hamburg, 5,002 bgs.

Caustic Soda—
B. Ayres, 40 dms.
Jaffa, 10
Tunis, 3

Chalk—
Rouen, 34 cks.

Chemicals (*otherwise undescribed*)
Quebec, 35 cks.
Beyrout, 30 brls.
Hamburg, 4
Tunis, 20

Coal Products—
Aniline Colour
Hamburg, 1 cs. 6 kgs.
Boston, 3 cks. 3
Aniline Oil
Germany, 1 dm.
Carbolic Acid
Rouen, 5 cks. 20 btls.
Montreal, 10 cs.
Naphthylamine
Antwerp, 112 cks.
Germany, 36

Colours—
B. Ayres, 3 cs.

Copperas—
Beyrout, 20 brls.

Cottonseed Oil—
Beyrout, 10 cks.

Dyestuffs—
Logwood Extract
Boston, 30 brls.
Tanners' Extract
Barcelona, 7 cks.

Glue—
Germany, 13 cks.

Linseed Oil—
Beyrout, 13 brls.
Jaffa, 5
P. Sudan, 113 dms.
Tripoli S., 7

Paraffin Wax—
Tunis, 10 kgs.

Plumbago—
Antwerp, 6 cks.

Salammoniac—
Tripoli B., 1 kg.

Soap—
Hamburg, 3 pns.
Alexandria, 2 cs.

Soda Crystals—
Beyrout, 2 cks.
B. Ayres, 50 kgs.

Sodium Bicarbonate—
Tunis, 200 bgs. 20 kgs.

Turpentine—
Tripoli, S., 6 dms.

HULL.

Week ending September 7.

Ammonium Sulphate—
Emmerick, 140 t.
Kobe, 984 bgs.
Rotterdam, 500
Venice, 515

Chemicals (*otherwise undescribed*)
Amsterdam, 6 kgs. 1 cs. 7 crts.
Antwerp, 3 t. 1
Bremen, 10
Bombay, 413 cks. 40 dms.
Bergen, 1
Copenhagen, 15 7 1
Drontheim, 30 1
Danzig, 63
G'thenb'rg { 3 5 905 slbs. 5 pks.
Hamburg, 94 11
Helsingfors, 17
Konigsberg { 11 30 kgs.
Stavanger, 10 11 20 dms.
Stettin, 19

Coal Products—
Pitch
Helsingfors, 122 bgs.
Rotterdam, 1 ck.
Tar
Christiania, 5 cks.
Drontheim, 5
Rotterdam, 20

Cottonseed Oil—
Amsterdam, 11 t. 11 c.
Copenhagen, 3 16
Drontheim, 17
Danzig, 2 14
Rotterdam, 20 10

Dyestuffs (*otherwise undescribed*)—
Antwerp, 7 cks.
Stettin, 10 dms.

Glue—
Gothenburg, 50 bgs.

Linseed Oil—
Bombay, 22 t. 17 c.
Christiania, 2 2
Drontheim, 18
Hamburg, 5 4
Karachi, 2 4

Manure—
Dunkirk, 63 bls.
Hamburg, 1,150 bgs.
Venice, 502 t.

Mineral White—
Amsterdam, 100 bgs.

Molasses—
Berger, 115 brls.
Helsingfors, 15 cks.

Plumbago—
Christiania, 6 cks.

Phosphate—
Gothenburg, 200 t.
Venice, 403 10 c.

Salt—
Antwerp, 38 cs.

Starch—
Stockholm, 32 cks.

Tallow—
Christiania, 30 trcs.
Gothenburg, 35
Hamburg, 5 cks.
Stavanger, 50

Turpentine—
Amsterdam, 2 cks.
Antwerp, 8 50 dms.
Bombay, 23
Christiania, 2
Copenhagen, 7
Gothenburg, 6 12
Hamburg, 5
Stockholm, 11
Rotterdam,

GLASGOW.

Week ending September 12.

Alum—
Sydney, 5 t. 9 c. 2 q.

Ammonium—
Rosario, 1 t. 1 c. 2 q.

Ammonium Carbonate—
Belgium, 1 t. 10 c.
Adelaide, 19 1 q.

Ammonium Sulphate—
Canada, 15 t. 5 c. 3 q.
Barbadoes, 50
Trinidad, 4 1 3
B. Ayres, 251 14 1

Chemicals (*otherwise undescribed*)
Montreal, 13 t. 1 c.
Newcastle, 3
Antigua, 14 3 q.
Algoa Bay, 1
Melbourne, 10 2
Nevis, 9 3

Coal Products—
Creosote Oil
P. Arthur, 670 t.
Malta, 52 18 c.
Pitch
Belgium, 40 t.
Canada, a qty.
Montreal, 22 5 c.
Bombay, 9 15
Egypt, 55
Tar
Canada, a qty.
Trinidad, 11 t. 19 c.
Rangoon, 31 10 2 q.

Copper Sulphate—
Trinidad, 1 t. 11½ c. 3 q.
Christiania, 1 2 3

Dyestuffs (*otherwise undescribed*)—
Lisbon, 9 c. 1 q.

Ferro Silicon—
Canada, 50 t.

Gelatine—
Canada, 3 t. 15 c. 2 q.
Rangoon, 9 2

Glue—
Rangoon, 1 t. 4 c. 1 q.

Lead Nitrate—
Canada, 5 t. 4 c. 2 q.

Linseed Oil—
Sydney, 6 t. 13 c.
Alexandria, 18 6 1 q.
Egypt, 4 4 1
St. Johns N'fld., 438 gals.
Malta, 240

Manure—
B. Ayres, 37 t. 14 c. 3 q.

Oleine—
Belgium, 1 t. 15 c. 3 q.

Paraffin Wax—
Bombay 11 t. 12 c
Egypt 2 5 1 q.
Calcutta 1 15
Belgium, 1 14 2
Rotterdam, 1 9

Potassium Bichromate—
Montreal, 4 t. 3 q.
Sydney, 3 5 c. 3
Melbourne, 5 16

Potassium Cyanide—
Beira, 1 t. 3 c. 2 q.

Red Lead—
Rotterdam, 2 t. 3 c.
Bombay, 2 10
Madras, 1 1 1 q.
Rangoon, 3 12 3

Soap—
Alexandria, 1 t. 2 c. 2 q.
Bombay, 3 2
E. London, 6 9
Trinidad, 2 8 2
St. Kitts, 7 1
Colombo, 1 17 3
Rangoon, 11 10

Sodium Cyanide—
Biera, 3 t. 1 c.
Delagoa Bay, 1 9 3 q.
Turval, 10
Narfil, 10

Starch—
Calcutta, 5 t. 4 c. 3 q.
Lisbon, 2

Sulphuric Acid—
Demerara, 12 t. 6 c.
Trinidad, 21 8 3 q.
Rangoon, 3 3

Superphosphates—
Portugal, 888 t. 3 c. 3 q.

Turpentine—
Egypt, 1 t. 15 c.

White Lead—
Newcastle, 1 t.
Bombay, 3 10 c.
Trinidad, 1 6 2 q.
Calcutta, 7 13 2
Rangoon, 2 9

Zinc Oxide—
Alexandria, 3 t. 14 c. 1 q.
B. Ayres, 1 12 2
Delagoa Bay, a qty.
Colombo, ,,

TYNE.

Week ending September 7.

Alkali (Ammonium)—
Bergen, 10 t.

Antimony (Regulus)—
Hamburg, 12 t. 9 c. 3 q. 13 lb.

Barium Binoxide—
Hamburg, 54 t. 17 c. 21 lb.
Copenhagen, 1 3 q. 16

Barium Carbonate—
Hamburg, 192 t.

Bleaching Powder—
Bergen, 6 t. 7 c. 24 lb.
Pomaron, 1 15 2 q. 3
Aarhuus, 10 3 2
Rotterdam, 12 8 4
Odense, 10 1 20

Bone Meal—
Hamburg, 49 t. 18 c. 7 lb.

Caustic Soda—
Trondhjem, a qty.

Caustic Soda—
Antwerp, 4 t. 18 c. 2 q. 18 lb.
Aarhuus, 2 18 4
Copenhagen, 8 14 12
Rotterdam, 4 15 1 22
Bergen, 10 3 14
Christiania, 6 6 1

Colours—
Antwerp, 2 c. 5 lb.

Guano—
Hamburg, 50 t. 2 q.

Infusorial Earth—
Antwerp, 10 c.

Linseed Oil—
Antwerp, 17 c. 3 q. 8 lb.
Christiania, 6 3 20

Litharge—
Hamburg, 4 t. 6 c. 12 lb.
Rotterdam, 1 2 1 q. 7
Lisbon, 2 4 2 4

Magnesia—
Valencia, 1 t. 15 c. 3 q. 2 lb.

Manure—
Venice, 20 t. 5 c. 1 q.
Valencia, 110
Gandea, 225
Yokohama, 49 16 8 lb.

Red Lead—
Stavanger, 5 t. 3 q. 3 lb.
Christiania, 3 15 c. 2 4
Bergen, a qty.
Trondhjem, ,,
Lisbon, 15 9 c. 1 10

Salt—
Christiania, 1 t. 6 c. 3 q. 2 lb.

Soda—
Pomaron, 1 t. 1 c. 1 q. 14 lb.

Sodium Hydrosulphite—
Valencia, 1 t.

Sodium Sulphide—
Hamburg, 4 t. 3 q. 19 lb.
Copenhagen, 2 4 c. 27

Sulphur—
Gothenburg, 250 t.
Christiania, 225

Tallow—
Pomaron, 4 t. 19 c. 11 lb.

White Lead—
Christiania, 3 t. 3 c. 1 q. 11 lb.
Bergen, a qty.
Trondhjem, ,,
Lisbon, 2 t. 2 3 25

GOOLE.

Week ending September 7.

Chemicals (*otherwise undescribed*)
Amsterdam, 20 cks.
Antwerp, 14
Boulogne, 2 8 cs.
Hamburg, 28 60 29 dms.
Rotterdam, 57 40 14

Coal Products (*otherwise undes.*)—
Amsterdam, 165 cks.
Boulogne, 82
Hamburg, 14 dms.
Rotterdam, 25

Coal Products—
Benzol
Rotterdam, 48 dms.

Colours—
Amsterdam, 30 cks.
Antwerp, 18
Boulogne, 1 48 cs.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 1 ck. 1 cs.
Rotterdam, 34 2

Manure—
Dunkirk, 38 bls.
Rotterdam, 507 bgs.

GRIMSBY.

Week ending September 4.

Chemicals (*otherwise undescribed*)
Hamburg, 26 cks.
Helsingborg, 15
Nalono, 72

Coal Products (*otherwise undes.*)—
Dieppe, 60 brls.

Colours—
Dieppe, 12 brls.
Hamburg, 10 cks.

Manure—
Hamburg, 868 bgs.

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PRICES CURRENT.

FRIDAY, September 20, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		40/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	31	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	45	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¼
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅝
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2½
,, (filtered for Lucigen light)	,,	0	0	3
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	5	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	67	0	0
,, Sulphate	,,	24	0	0
,, Oxide (copper scales)	,,	59	0	0
Glycerine (crude), 80%	,,	31	0	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	22	10	0
,, Litharge Flake (ex ship)	,,	23	10	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	0	0
,, Nitrate	,,	34	10	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	27	0	0
Linseed	,,	24	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8¾
,, Hydrate (Caustic Potash), 90%	per ton	26	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7 5/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,,	4	10	0
,, ,, (Soda Crystals)	,,	3	0	0
,, Acetate (ex ship)	,,	16	15	0
,, Arseniate, 45%	,,	24	0	0
,, Borate (Borax), Crystals	,,	16	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,,	,,	10	5	0
,, ,, (70% C. Soda) ,,	,,	9	15	0
,, ,, (60% C. Soda) ,,	,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,,	,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	34	0	0
Tin Crystals	per lb.	0	0	11½
,, English Ingots	per ton	170	0	0
Zinc (Spelter)	,,	21	5	6
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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NOTICE.

Correspondents will please note that our Manchester address now is

Barton House,
66, Deansgate.

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CARBONIC OXIDE POISONING.

THE Annual Report of the Chief Inspector of Factories (already partly summarised in recent issues of the *Journal*) contains several references to cases of poisoning by carbonic oxide which appear to call for emphasis, in view of the increasing use of producer-gas. The Superintending Inspector for the North-Eastern Division, in that part of his report which deals with industrial poisoning, quotes the observations of one of the District Inspectors, who points out that a serious case of carbonic oxide poisoning occurred in a works having a Dowson gas plant; a complaint having been received that persons in an adjoining factory had occasion to suspend work, and were more or less affected in health, by an escape of gas, it was found on inquiry that the Dowson gas plant referred to was the cause of the trouble. The producer was situated partly in the open air, under a shed between the two factories, and had a defective gasometer, which was made in the ordinary cylindrical form of thin plates. Some of the plates had rusted away, through exposure to the weather and neglect of painting, so that an escape of gas occurred at the joints and at various points in the centres of the sectional plates on the dome. The Halifax Inspector goes on to state the amazing fact that the only precaution taken to prevent this escape of gas was to cover the holes with moist clay, and to lay coarse sacking and weights over them. This was, apparently, the condition of the gasholder for some months, but, as might have been expected, the expedients acted only for a short time, as the gas bubbled through the wet clay and necessitated frequent renewals daily. Although the attendant had been "gassed" several times—being once picked up insensible—and although the attention of the firm was drawn to the danger, the working of the plant was continued. The Inspector eventually obtained an order under which the use of the plant was prohibited.

Although it would hardly seem necessary to emphasise the need for careful supervision in the generation and use of producer-gas, cases such as the one mentioned above show that the increasing use of gas producers must be accompanied by intelligent supervision if serious cases of "gassing" by carbonic oxide are to be avoided. It is scarcely possible for such ignorant manipulation of gas-producer plant to occur in a chemical works; but the fact remains that many factories of a non-chemical character are now employing gas producers, and it is in such works that serious accidents may be anticipated. Ordinary textile factories, for instance, will probably have no person on the staff possessed of chemical knowledge, and under such circumstances, where ignorance of the insidious nature of carbonic oxide exists, it is very easy to understand that frequent cases, more or less serious, of "gassing" may occur.

The Home Office issue a Memorandum on this subject to those manufacturers who have adopted suction-gas plants,

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but it seems necessary that the non-chemical manufacturer should be further educated to the importance of observing extreme caution in the working of gas producers, and, further, in the methods to be adopted in the unfortunate event of "gassing" accidents occurring on his premises. In this connection we may once more remind our readers that the use of the "Rules for Dealing with Dangerous Gases," introduced by us in 1896, and of which several thousands have now been distributed, will do much to prevent "gassing" accidents. Some such regulations should be enforced in all works or factories in which producer-gas is generated or used, and suitable appliances of the "rescue" type should be provided. Lamentable ignorance still prevails on this subject, and we must look to the officials of the Home Office to do for factory owners and manufacturers generally what has already been in great measure accomplished in connection with chemical works in particular.

ELECTRICAL POWER IN FACTORIES AND WORKSHOPS.

THE Home Secretary has issued a draft of regulations which he proposes to make for the generation, transmission, distribution and use of electrical energy in premises registered under the Factory and Workshop Act. It will be remembered that in 1904 draft Regulations were issued by the Home Office based on existing requirements of the Board of Trade, having reference to the use of electrical energy at medium pressure. It was found, however, that although the requirements had been for some years in force as Board of Trade Regulations, many difficulties arose in regard to their enforcement as Regulations under the Factory Act. As the proposed Regulations covered only part of the ground which had eventually to be covered, the Secretary of State decided to defer the consideration of them until a more complete code could be prepared.

The present draft applies to the generation and transformation, as well as the distribution and use, of electrical energy on all premises under the Factory Act, and at all pressures above 130 volts continuous and 65 volts alternating. In adopting the above limitations on the basis of pressure, the Home Secretary, while realising that there may be danger at still lower pressure, has been guided by the fact that the serious accidents from shock which have come to his notice have been at pressures exceeding those named. Special consideration has been given to the conditions under which preventable accidents have arisen. The Home Secretary regrets to learn that while in many electrical installations the utmost care has been taken to prevent unnecessary danger, there are striking exceptions to this rule, even in work recently carried out. In drafting the regulations the Home Office rules for the use of electricity in mines, the various Board of Trade rules, including those already referred to for the use of electrical energy at medium pressures, the rules of the Institution of Electrical Engineers, and of fire insurance offices have been consulted. Some of these prescribe details to a greater extent than would be possible in regulations applicable to such a wide field as is now in question; and in many points it has been thought to be more expedient, in view of the rapid development of electrical engineering, to indicate broadly the dangers to be avoided and the nature of the precautions required, than to define particular means of securing the necessary safety. It appears often to be thought that where the supply of electrical energy is at low pressure there is no danger of shock, or rather that there is no danger to life from a shock at such pressure. It has, however, been abundantly proved that this is not the case. Fatal cases of shock at low pressures are by no means of rare occurrence. Accidents from shock may occur by a person making contact simultaneously with two live conductors at different pressures, but more usually by merely touching one conductor whilst being in contact with the ground. A mere momentary contact with a conductor at low pressure, even when standing on damp ground, may not produce a serious shock, but a person who happens to grasp the conductor may be quite unable to release his hold, and the shock is prolonged until assistance comes. In such circumstances it may take only a few seconds for the shock to prove fatal. The dividing line between the conditions which will render the shock merely trifling and those which will render it fatal is so narrow that it becomes necessary to provide, so far as is practicable, that no shock shall be received at all.

In accordance with the requirements of the Factory Act, the regulations are now published in draft, and are subject to further consideration. Any objections of substance, made by employers, workpeople or other persons affected, will be carefully considered by the Secretary of State, and will, if necessary, be the subject of full inquiry made by a competent person appointed by him. In that event the owners, occupiers, employers, workpeople and all others concerned will be entitled to a full hearing at the inquiry, and the report of the person holding it will be considered by the Secretary of State before the regulations are made.

If, therefore, any person desires the regulations to be further considered, he should lodge objection in accordance with section 80 of the Factory Act, and in pursuance of that section the Secretary of State gives the following notice:—That he proposes to make regulations dealing with the generation, transformation, distribution and use of electrical energy in factories and other places to which the Factory Act applies, in accordance with an enclosed draft, copies of which may be obtained on application to the Factory Department, Home Office, London, and that any objection with respect to the draft regulations by or on behalf of any person affected thereby must be sent to the Secretary of State within forty days from this date. Every such objection must be in writing, and must state (*a*) the regulations or portions of regulations objected to; (*b*) the specific grounds of objection; and (*c*) the omissions, additions, or modifications asked for.

NITRATE OF SODA.

IN spite of expected small September shipments from Chili, and the continued absence of arrivals at ports of call, business is a dead letter, with prices somewhat weaker again in Continental markets. A cargo which arrived at Plymouth on July 30 is still awaiting orders! Spot is quoted 11s. per cwt. in Hamburg, and prompt shipment 8s. 11d. per quintal, f.o.b. Chili, compared with 11s. 7½d. and 9s. 5d. respectively at this time last year, when markets had a strong upward tendency. The only incident in favour of holders has been a fire in Iquique, which is said to have caused the destruction of a considerable quantity of the fertiliser. More interest seems for the moment to be taken in nitrate shares than in nitrate of soda, and yet another company (the "Lilita") has made its appearance as a candidate for British capital. It is a small concern, intended to produce only 16,000 tons per annum, but the annual profit is estimated at £54,000. on the basis of a cost of 5s. 6d. per quintal, f.o.b., and a selling price of 8s. 6d. With regard to the latter figure the prospectus discreetly "assumes the continuance of the Nitrate Combination"!

THE GROCERS' EXHIBITION.

A COMPLETE review of the Grocers' Exhibition, which was opened at the Royal Agricultural Hall, Islington, on Saturday last, and which closes to-day (Saturday) would be beyond the scope of this *Journal*, but the exhibits of soaps, disinfectants, grinding and mixing machinery, etc., are highly interesting.

Messrs. Wm. Gardner and Sons are exhibiting a large number of their grinding and sifting machines, including one specially designed for powders requiring fine dressing. Either a silk or wire mesh can be employed in the latter machine, as all coarse or gritty matter is automatically removed from the powders and discharged from the mixer. A patent fixing device allows of the dressing cover being quickly removed and a finer or coarser one substituted, thus rendering the machine applicable to a variety of purposes. Another machine, which has for its object the blending of all kinds of powders, is the "Colunio" mixer. This mixer is exhibited by Mr. Caleb Duckworth, of Colne, and is adaptable to either hand or steam power.

The Sanitas Company's exhibit consist of an attractive display of disinfectants, soaps, Kingzett's sulphur candles, "Okol," and "Special Sanitas" Bactox. Disinfectants and soaps also form a prominent feature of Pearson's Antiseptic Company's stall. Besides the above mentioned, several other firms devote their stalls principally to a display of various makes of soap, amongst whom are the "Vinolia" Co., Ltd., Sapon, Ltd., T. B. Rowe and Co., Ltd, The Chiswick Soap and Polish Co., Maypole Co. (1899), Ltd., and Armour and Co., Ltd.

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It is interesting to note that Messrs. Werner, Pfleiderer and Perkins, Ltd., whose mixing machines are well known to chemical manufacturers, are the makers of theModel Bakery in the Minor Hall of the Exhibition.

The Salt Union exhibit various qualities of salt, the City of London Wood Co. show "Elastene" wood fibre for packing purposes and "Elastene" wood fibre for filtering water, and Young's Patent Hygienic Bin Co. have a display of storage bins made of galvanised steel, without corners or crevices

The promoters are to be congratulated on the efficient and excellent manner in which the Exhibition has been organised.

Reports of Companies.

BRITISH COALITE CO., LTD.

The statutory meeting of shareholders was held on the 20th inst., Mr. A. G. Kitching presiding. The Chairman said that during the last three months the manufacture of coalite had been cheapened and expedited, and it was anticipated that, in the near future, it would be made in less time and at less cost than was mentioned in the prospectus. Replying to criticisms which had been directed against them, the Chairman said one of these was to the effect that too much had been paid to the inventor. He contended that the price paid to the inventor was honourable, fair, and reasonable. Furthermore, he did not get a farthing until the shareholders had received 6%. Another point was their contract with Messrs. Wm. Cory and Sons. They had come to this arrangement because they preferred co-operation rather than competition. He was firmly convinced that this contract would be to the advantage of both parties, and would prove a most valuable asset to the British Coalite Co. With regard to the question of the estimated profits, as only £750,182. had been subscribed, they did not expect to earn profits as large as had been anticipated had the whole of the £1,500,000. been subscribed; but, on the other hand, there would be less capital upon which to pay dividends. They had about 3,500 shareholders. As to what had been done, they had accepted tenders for a considerable number of stills in which to manufacture their coalite at Barking, which were to commence to be delivered within a week. They anticipated that the first would be in position and ready for work by the end of November. The purchase of the Company's freehold land at Barking was being completed, and the company was taking possession. The coalite plant at Wednesfield, near Wolverhampton, was, in the meantime, continuing to manufacture coalite, and the purchase of 60 acres of freehold land at Wednesfield had been completed. This land, when bought, was believed to contain coal beneath the surface, and it had now been tested by one of the most experienced colliery engineers in England, who estimated that over a million tons of coal, of the kind known as "Staffordshire thick seam," lay immediately beneath the surface, and was easily workable. This was very important to the shareholders, as the land for which they had paid £15,500. was now worth several times that amount, and thus the company would be provided with cheap coal for many years to come.

The Chairman proceeded to explain the difference between coalite and coke, and said they need not fear competition in this direction. He was authorised to inform the proprietors of the Coalite Company that negotiations were in progress, and would be completed in the course of the next few days, with one of the most important gas companies in the kingdom for the erection of a coalite plant on the land and near the works of the gas company, to make half a million of cubic feet of gas daily, which would be disposed of to the gas company on advantageous terms. The Coalite Company would themselves retain and deal with the coalite and other by-products. He believed that this would be followed by many agreements of a similar character. The directors were quite satisfied with the progress which had been made, and had absolute confidence in the future of the Company.

After a short discussion, the proceedings terminated with a vote of thanks to the Chairman.

ANGLO-SICILIAN SULPHUR COMPANY.

The annual meeting of shareholders was held on Tuesday last. Mr. W. T. Brand, who presided, said that the statements made by him at the meetings in June and November of last year as to a satisfactory return of capital were likely to be fulfilled. If the proposed resolution for the liquidation of the company were passed, he hoped that the liquidator might be able to return the capital to the preference shareholders towards the end of October, and that the ordinary shareholders would receive a most satisfactory return on their shares. Every ordinary shareholder who eleven years ago took a shilling share in the company would have received 4s. 2d. as dividend during that period, and, in addition, would receive, he hoped, at least 4s. more, so that in eleven years they would have had, in addition to the return of 1s. of capital, 8s. 2d. per share.

The report was adopted, and resolutions were afterwards passed for winding-up the company voluntarily, and appointing the Chairman as liquidator at a fixed remuneration of £1,500.

THE MANCHESTER GAS EXHIBITION.

SOME twelve months ago, the Manchester District Institution of Gas Engineers decided that it was expedient to initiate a movement for the promotion of an exhibition of gas appliances. The general knowledge of the public with regard to the uses of gas for purposes other than lighting was considered to be such that full justice was seldom given to the heat-giving value of coal gas.

Mr. Cawood, of St. James's Hall, Manchester, was approached in the matter, and an Advisory Committee was formed consisting of members of the Councils of the Society of British Gas Industries and the Manchester District Institution of Gas Engineers, with Mr. Thomas Newbigging, M.I.C.E., as Chairman. Under the auspices of these gentlemen, all of whom are experts in their own particular branch of the gas industry, the arrangements for the forthcoming Exhibition have been completed.

In the allotment of space, all applications have come before this Committee, and particular care has been taken in such allotment, the aim of the Committee being to give a unique demonstration of the best and most modern methods of applying coal gas in metallurgical purposes and in the engineering and mechanical industries. There will also be on show improved systems adapted for use in the textile industries. At the Exhibition demonstrations will be given having for their object the gaining of the confidence of the general public and at the same time to furnish them with useful information.

The Committee consider that though it is a well recognised fact among scientists that gaseous fuel in many industrial purposes is by far the cheapest and handiest, yet in the past the firms employing it have kept the methods of using and the apparatus to some extent as a trade secret. At this Exhibition members of the Committee and various exhibitors will be ready to give advice as to its adaptability in new fields.

Of late, Manchester and other Lancashire towns have been greatly occupied with the question of smoke nuisance. In the Smoke Abatement Section there will be shown the most modern smokeless appliances for the heating of domestic houses, halls, and public buildings by gaseous fuel, and with a view to giving that confidence to gas consumers which, in the past, has been lacking, there will be an exhibit of a new appliance for enabling the gas consumer to ascertain and check the amount of gas used on any or all of his gas appliances, either combined or separate. Users of power will have at this Exhibition the advantage of being able to attend a lecture on gas engines given by an eminent authority, Mr. Dugald Clerk, M.I.C.E., President of the Society of British Gas Industries. There will also be lectures on smoke abatement, by Mr. J. W. Graham, M.A., Principal of Dalton Hall, Manchester, by Mr. J. B. Cohen, Ph.D., B.Sc., of the Leeds University, an interesting popular lecture on domestic heating and ventilation by Mr. R. H. Clayton, B.Sc., F.C.S., and further lectures by Mr. J. H. Brearley, of Longwood, on gas fires, Mr. J. G. Newbigging, M.I.C.E., of Manchester, Mr. S. Muenier, of Stockport, Mr. Tim Duxbury, of Oldham, and Mr. Kendrick, of Stretford, gentlemen who are at present in charge of local gas undertakings. In the Lighting Section there will be an exhibit showing the evolution of gas lighting from its infancy down to the present date. The principal rival systems of lighting by incandescent burners and by high-pressure, compressed, and other systems will be on view.

The Exhibition is to be opened on October 23rd, at 3 p.m., by the Lord Mayor of Manchester, assisted by the Mayor of Salford, and closes on November 9th.

CHANGE OF ADDRESS.—From a notice on another page, our North-country readers and clients will see that our Manchester address now is Barton House, 66, Deansgate.

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CHEMICALS, ETC., IN JAPAN.

(*Concluded from p. 217*).

METALS also showed a very noteworthy advance from £1,933,543. in 1905 to £3,046,809. in 1906, an increase of over 57%. Here, however, the importance of the group is practically decided by one item, that of copper, which was responsible for 84% of the total. The copper mines are extensive, and in 1904 Japan ranked fifth on the list of copper-producing countries. The great increase in the export was due to the great advance in the price of the metal throughout the world. Prices opened early in the year (for Furukawa Bessemer) at about £77. 15s. per ton, and advanced to £97. 13s. and even £103. 14s. per ton before the year closed. Under the heading of "Oil and wax" the largest increase was in fish oil (mostly from herrings), which advanced from £75,881. to £124,846. Business was generally good, especially in the latter half of the year, when the demand increased considerably. In January the price per cwt. was about 10s. 1d., falling later on to 8s. 8d., and rising again before the end of the year to 12s. 7d.

The following were the leading imports from the U.S.A.:—Kerosene oil, £976,000.; paraffin wax, £140,000. Exports from the same country were:—Copper, refined, £263,000.; camphor, £124,000.

From China, imports were:—Manure (mainly oil cake), £1,658,000.; cottonseed, £104,000. Exports to China:—Matches, £509,000.; copper, £455,000.

The principal German imports were:—Drugs, chemicals, etc., £431,000.; Artificial indigo, £896,000.; aniline dyes, £2[illegible],000. Exports to Germany included:—Refined copper, £244,000.; fish oil, £60,000.; camphor, £52,000.

Imports from France were:—Drugs, medicines, etc., £36,000. Exports to France were:—Refined copper, £219,000.; camphor, £109,000. Corean imports were:—Manures £47,000.

Amongst commodities in which the British Empire is interested were the following:—Carbolic acid (£5,610. out of £20,120., mostly from Germany); alcohol (£1,290. out of £18,790., mostly from Germany); subnitrate of bismuth (£8,710. against £28,160. from Germany); chlorate of potash (£37,970. out of £112,150.); while, of course, in the valuable aniline and alizarine dye trade the British share is practically nil.

In 1905 nearly 70% of the import of rape seeds came from India; in 1906 the Indian total was only £5,600. out of £53,380., the remainder being nearly all from China.

There were considerable imports of zinc. In the case of blocks, ingots and slabs, the imports were £65,280., of which the share of the United Kingdom was only £11,250., the greater part coming from Germany and Belgium. In 1905, when the total imports were over three times those of 1906, the British share was upwards of £59,172., so that further British imports seem possible, especially as they were slightly cheaper than those from Belgium. Similar remarks apply to sheet zinc, over 70% of the import of which came from Germany. Here, however, the British product is considerably dearer.

The total amount of import duty collected during 1906 was £4,208,936., against £3,501,307. in the previous year. Looked at as a whole, the new tariff must be regarded as based on scientific principles and designed to give the maximum opportunity for the development of Japanese industries, and also to be of as great assistance to the revenue of the country as possible. It is not likely that the new tariff in itself will lead to any diminution of the import trade. Doubtless individual items and groups of items will suffer, partly from the prohibitive rates of duties and partly because Japan herself will probably be able to supply the demand. On the other hand, the development of the country will call for new appliances and greater supplies of material, while the growth of luxury will create new demands only to be satisfied, for a time at least, from abroad.

Potash Salts.—At last week's meeting of the Potash Syndicate, in Berlin, the decision in regard to the admission of the Heldrungen and Günthershalls Companies was postponed, pending evidence of output capacity. An increase of about £160,000. was reported in the value of deliveries in the first eight months of the current year, compared with those in the corresponding period in 1906; the recent expansion must have been considerable, since the first six months showed a decrease. A sum of £5,000. was voted to Herr Schreiber, a retiring member of the Board, a *douceur* reminiscent of those distributed by the Nitrate Combination.

Continental Notes.

IN the *Chemiker-Zeitung* for August 31, Dr R. Cohn writes on the salting out of cocoanut oil soaps as a means for the detection of this fat. The method depends upon the fact that the fatty acids in cocoanut oil consist largely of capric, caproic, and caprylic acids, the soaps of which are comparatively soluble in brine. The aqueous solution of the soap to be examined is therefore salted out with common salt, and the filtrate is tested with hydrochloric acid. The presence of quite a small proportion of cocoanut oil will cause a turbidity. The method can be used for ascertaining whether cocoanut oil has been used to adulterate oils and fats such as tallow, margarine, sesame oil, cottonseed oil and palm oil. It can even be applied to butter, but in this case a slight modification of the method has to be used, as the butter itself contains a small proportion of fatty acid that is difficult to salt out.

In the same issue R. Freygang describes a plant for separating the slimes from ores, or for treating ores with liquid such as the cyanide solution used in gold extraction. The machine consists of an inclined tube, within which there is a worm turned by means of gearing. Water and the ore are made to enter the tube at its lower end, and the ore is driven up by means of the worm. The stirring it receives causes any clay or other slimy material to go into suspension in the water, which carries it away through an overflow pipe. When used for extraction purposes the procedure is the same, except that the extracting liquid is run in, instead of water; in order to make the extraction more complete the ore can be made to pass through several of the machines, each one feeding into the next.

In the issue for September 4, Prof. von Drigalski writes on the removal of iron from water supplies by means of closed plants. He gives the results of the bacteriological examination of the water supply of Hanover before and after the iron has been removed from it by means of the Bock pressure filter. These results show that the number of bacteria is not increased by this treatment; this is in contradiction of the statements recently made by Schlegel and Mergel.

E. Schultze's recent paper, in which he stated that the free phosphoric acid in superphosphate cannot be determined with accuracy, has called forth a reply from Dr. W. Möller in the *Chemiker-Zeitung* for September 7. From the fact that the oxalate method gives results that are practically identical with those obtained by the old ether method and Schucht's acetone method, he concludes that the figures are sufficiently reliable for practical purposes. He considers that this determination is only of interest to the manufacturer, who is obliged to have a certain proportion of free phosphoric acid in the fertiliser in order to produce a satisfactory product, and this proportion has to be varied according to the nature of the phosphate that is being used.

In the same issue there is a paper by M. Nierenstein, on the constitution of tannin.

The work of Professor T. W. Richards as a laboratory technicologist is the subject of a communication by Dr. P. Köthner to the issue of September 11. In the course of his extensive researches on the atomic weights the great American scientist has worked out or devised a large number of appliances for use in the laboratory, and these are not only more accurate than those usually used, but in many cases are more convenient also. For distilling water and other liquids, for instance, he uses a very simple flask, condenser, and receiver, which does not allow the steam or water to come in contact with rubber or other organic material, and yet the apparatus has no ground joints. Other appliances that are illustrated are a small porcelain centrifugal, an electric heating bath, a nephelometer for measuring the quantity of solid held in suspension in the liquid, and a glass appliance for filling a weighing tube with substances that have to be kept in special atmospheres. During Richards' stay in Berlin he has communicated these and many other methods to the students who attended his courses. Richards may be considered as the successor of the earlier workers upon atomic weights, Berzelius and Stas, but whereas they worked alone, Richards has educated a number of assistants and has infused them with his own spirit of care and accuracy. This is no doubt a more difficult task than to do the manipulations alone, but it has the advantage that it not only increases the amount of work that can be done, but also creates a school of atomic weight chemists, who can carry on the traditions. The writer ends by calling attention to the great advantages that are derived from the interchange of professors between America and Germany.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Oils and Greases. E. Ridgill. 20,059. September 9.
Funnels. J. P. Jackson. 20,078. September 9.
Concentrated Acetic Acid Hydrate Solution from Dilute Acetic Acid Solution. G. B. von Belatini. 20,125. September 9.
Slime Filters. L. S. Burt and J. Thame. 20,175. September 10.
Centrifugal Drying Machines. J. W. Macfarlane and W. A. Macfarlane. 20,178. September 10.
Hydro-Extractors. E. L. Collon and G. Tabard. 20,211. September 10.
Obtaining Constant Temperatures. British Thomson-Houston Co. Ltd. 20,228. September 10.
Suction Gas Producers. F. J. Bennett and W. Tapley. 20,233. September 11.
Drying and Calcining Ores and Ore Earths. A. W. Farnsworth. 20,249. September 11.
Furnaces for Roasting and Calcining Ores. W. Smethurst and the Arenic Gold Mining Co. 20,277. September 11.
Atmospheric Air, Separation of the Constituents of. La Société L'Air Liquide. 20,349. September 12.
Gas Producer Plants. W. *N.* Tonkin and S. Fuplett. 20,352. September 12.
Ortho-nitrated Amino-derivatives of the Benzene and Naphthaline Series. A. G. Bloxam. 20,367. September 12.
Apparatus for Filling Casks. C. Sellenscheidt. 20,374. September 12.
Lining for Filter Elements. C. Sellenscheidt. 20,375. September 12.
Silicates of Magnesia. H. Herenschmidt. 20,378. September 12.
Product from Albumen. P. Leuthardt-Thornton. 20,381. September 12.
Extraction of Sulphur from Sulphur Compounds. S. O. Cowper Coles. 20,386. September 12.
Disinfectant and Insecticide. F. W. Howorth. 20,387. September 12.
Crushing Machines. G. H. Fraser. 20,395. September 12.
Centrifugal Separators. J. Birtwistle. 20,412. September 13.
Sifter and Mixer. C. E. Gardner. 20,453. September 13.
Removing Superphosphate from the Decomposition Chamber. K. J. Beskow. 20,466. September 13.
Purification of Sulphuric Acid from Arsenic and Selenium. H. W. Crowther, F. P. Leach, and W. T. Gidden. 20,509. September 14.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Treating Slimes. Goschen. 13,275.
Arylated Derivatives of 2-amino-5-naphthol-7-sulphonic Acid and Arylated Derivatives Produced thereby. Bloxam. 19,962.
Utilisation of Waste Liquor from Galvanising Iron. Thomson. 20,057.
Xanthates of Certain Carbohydrates. Cross and Briggs. 20,638.
Metal Drums for Containing Cement, etc. Heil. 20,898.
Anthracene Derivatives. Newton. 24,429.
Paint Removers. Reihl and Waters. 27,092.

1907.

Removal of Arsenic from Liquids and Gases. Johnson. 974.
Centrifugal Separators. Prollius. 2,596.
Obtaining Highly Concentrated Nitric Acid. Gontard and Valentiner. 4,254.
Smoke-consuming Appliances. Keighley. 7,603.
Feed-water Heaters and Purifiers. Stevens. 10,353.
Sheep Dip. Moore. 11,132.
Centrifugal Separating Apparatus. Spengler and Sommerschuh. 18,147.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or Relating to the Recovery of Vapours given off by Volatile Liquids. H. Diamanti, 3, cité Trévise, Paris, and Charles Lambert, 3, rue Turbigo, Paris. British Patent, 5,019. March 1, 1907.

This invention consists in effecting the liquefaction of the vapours of the volatile liquids by contact with suitably arranged cold walls, whilst at the same time, in order to avoid re-volatilisation, the drops of liquid thus obtained are sheltered from the action of the surrounding air, the drops being collected immediately in a tube or a recipient of suitable shape kept at a very low temperature.

Process for the Manufacture of Peroxide of Potassium, or of a Mixture rich in Peroxide of Potassium. G. F. Jaubert, 155, Boulevard Malesherbes, Paris. British Patent, 7,641. March 30, 1907.

The inventor claims: (1.) A process for manufacturing pure peroxide of potassium, or a mixture rich in peroxide of potassium, consisting either in heating moderately under the influence of a slow admission of air, an alloy of potassium with a metal such as lead, zinc or sodium, or in transforming, in a liquid alloy of potassium and sodium, first of all the potassium into oxide of potassium by means of air at ordinary temperature and continuing its oxidation after the separation of this oxide. (2.) A method of carrying into practice the process in accordance with Claim (1), consisting, with alloys of potassium and sodium very rich in potassium, in converting the whole of the alloy into peroxide at as low a temperature as possible in order to oxidise first the potassium and then the sodium to the end of obtaining a mixture of the two different peroxides.

Improvements in Methods of and Apparatus for Refining Tin Electrolytically, particularly for Extracting Pure Tin from Alloys, Wastages, Residues, and the like, with the Extraction of the Foreign Metals. O. Steiner, Tannenstrasse, 113, Krefeld, Germany. British Patent, 10,230. May 2, 1907.

This invention relates to a method of refining crude tin electrolytically and extracting pure tin from alloys, etc., electrolytically, in an alkaline sulphur solution, and is characterised by the use of tin cathodes and homogeneously soldered contacts, and by the tension of the electrodes being kept under two-tenths of a volt by selecting suitable current density, concentration of lye and distance between the electrodes, and by adding flowers of sulphur as depolariser to the bath each time before it is newly charged with anodes, for the purpose of obtaining metallic bright, closely compact, tin deposits of perfect metallic character.

A New Recuperating Filter. M. Lamort, 18, Rue de Mogador, Paris. British Patent, 11,925. May 22, 1907.

The inventor claims: (1.) In a filtering apparatus, particularly for recuperating the fibres in the manufacture of paper, and wherein a liquid charged with solid substances to be separated and recuperated is distributed over a movable endless gauze and then detached therefrom, passing the endless gauze over a device which takes off the water drops retained by capillarity on its lower surface, and imparting to the said gauze an intermittent forward movement, producing thereby a sieving action, the solid substances retained on the gauze being then detached by any suitable means, and finally collected in a suitable receptacle; (2.) A filtering apparatus as claimed in Claim (1), wherein the forward intermittent movement is imparted to the filtering gauze by a drum, actuated by a belt which is fixed at the one end to a connecting rod reciprocated continuously by a crank, and at the other end to a spring which retracts the band each time the connecting rod makes its return movement, so that the drum, and consequently the roller and the endless gauze, are taken along only during the forward movement of the connecting rod.

Improvements in or Relating to the Treatment of Sulphide Ores containing Zinc. R. W. E. McIvor, Glengall Road, Millwall, and M. Fradd, Finsbury House, Blomfield Street, London, E.C. British Patent, 19,130. August 27, 1906.

The claims of this specification are:—(1.) The process of treating sulphide ores containing zinc, which consists in subjecting the ore to a sulphating roast to convert the zinc present into a mixture of zinc sulphate and zinc oxide, treating the whole product with a solution of calcium chloride, passing sulphurous acid into the mixture, and agitating it so as to precipitate sulphate and sulphite of calcium and obtain a solution of zinc chloride from which the zinc is afterwards precipitated by lime. (2.) The process of treating sulphide ores containing zinc, which consists in subjecting the ore to a sulphating roast to convert the zinc present into a mixture of zinc sulphate and zinc oxide, treating the whole product with a solution of calcium chloride so as to dissolve the zinc sulphate, forming a solution of zinc chloride and precipitating calcium sulphate, passing sulphurous acid gas through the mixture and agitating it so as to dissolve the zinc oxide as zinc bisulphite which is converted into zinc chloride, thus precipitating calcium sulphite, removing the zinc chloride solution by filtration, and precipitating zinc oxide therefrom by lime, thus reproducing the calcium chloride.

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THE CAMPHOR SITUATION.

IN view of the report of the British Consul at Foochow on the Chinese camphor industry (see p. 265 of our last issue), the following comments from the *Oil, Paint and Drug Reporter* (New York), are of interest. Our contemporary observes that the camphor situation is exciting no small concern. It was recently announced that the manufacturers of pyroxyline products, who consumed over 75% of the camphor imported to the United States, were no longer to be dependent upon the domestic refiners for their supplies, and were to be accorded the privileges of purchasing their crude camphor from the London house of Samuel and Co., who, through the Formosa house of the same firm, are the selling agents for the Monopoly Bureau of Japan. This condition was brought about after investigation by two Japanese officials, who visited the United States for this purpose, and who reported to the Japanese Government on the situation, their recommendations resulting in the changed method of distribution referred to. A recent letter from one of these officials, communicated to our New York contemporary, states that the "camphor refiners who formerly were the principal customers of the Monopoly Bureau, have of late taken advantage of the inability of the Japanese Government to produce sufficient camphor, and the weakness of celluloid manufacturers, to buy as much as they possibly can in order to meet the rapidly increasing demands for their products, and have thus been gaining unfair profit to themselves, with the result that the former customers of the monopoly camphor have now compelled celluloid manufacturers to use substitutes for camphor on one hand, and on the other stimulated chemical inventions of synthetic camphor."

The Government of Japan has been working energetically to increase the production of camphor in Japan and Formosa, but has not been able to keep pace with the world's demands. The urgent calls for the gum attracted attention to the fields of South China, and the Japanese recommended to the Foochow Government the establishment of a monopoly system there, and even sent experts and skilled workmen to that country with a view of increasing production. For a time the Chinese monopoly flourished, but after one or two years it failed under alleged improper or incompetent management. When, however, the price of camphor began to soar in the markets of America and Europe, the Chinese took up the industry again with renewed vigour, and, according to as eminent an authority as Mr. Iwai, one of the Japanese Commissioners referred to above, the estimated present out-turn in China will reach between 20,000 to 30,000 piculs, or from 2,666,000 to 4,000,000 pounds. The Japanese production is only 6,700,000 pounds, so that China is now yielding a much more liberal percentage of the world's output than has hitherto been supposed. Mr. Iwai, however, expresses the fear that the recent stiff declines may have the affect of restricting the Chinese industry later on.

The contract which the Japanese have made with Samuel and Co. specifies among other things that 32% of the world's output goes to the United States, and of this proportion 80% is to be allotted to manufacturing consumers and 20% to refiners.

The manufacturers of pyroxyline materials have no cause to complain of the turn of affairs, but the refiners consider they have a grievance, and it is more than likely that they will make every effort and bring pressure to bear on the Japanese Government to restore the previous order of things. It does not seem likely from the tone of the letters received from that country that they will succeed, but the situation will bear close watching, as some modification of the new rule might be secured. Since the new regulations have been in force, however, and the refiners' market restricted, the evidences of competition have been apparent in the course of prices, which since last March have fallen from $1.24. to 85 cents per pound. The agreement, or whatever one might call it, has been broken, one refiner has broken loose, and in the scramble for trade has come the reduction of 39 cents a pound within the last five months.

The *Oil, Paint and Drug Reporter* concludes:—"A word or two at this time in regard to the distribution of synthetic camphor may not be inopportune. Manufacturing consumers claim that while they cannot use the chemical product for all purposes, yet it supplies a want for lower-grade material, and, as such, has a reasonable market value, but that it also has been held too high. It has been the custom of the producers to hold synthetic camphor some 10 or 15 cents under the market for the natural gum, which is considered too close a margin, especially when the price for the latter is high. Consumers would, they say, be much more liberal in their purchases of synthetic if the producer, instead of following the course of the market for natural camphor, would establish a steady price, allowing to themselves a fair profit. There is, moreover, great disinclination on part of customers to take the same chances as to values with the synthetic as they are compelled to take with the natural gum."

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Sept. 25.
120,000	1	1	Bell's Asbestos ... ord	38/9
	Stock	100	Bo. ax Consol. 4½% deb. stock red	110¼
80,000	10	10	Do. ... pref.	11¼
1,356,477	1	1	Bradford Dyers ... ord.	23/9 24/-
1,50 ,000	1	1	Do. ... 5% c.p.	21/- 21/3
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/3 12/9
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	42/-
10,000	10	10	Do. ... 6% c p.	12½
1,472,154	1	1	Brunner, Mond and Co. ord.	5 5/16 5⅜
82,678	10	10	Do. 7% pref	17¼
96,000	5	5	Bryant and May ... c.p.	12½
40.000	10	10	Buxton Lime Firms ord.	6¾ 6⅞
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/6
450,000	1	1	Cas:ner Kellner ... ,,	25/-
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m p.	2½ 3
20,000	10	10	Crosfield J , and Sons c.p.	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/3 27 9
5,000	10	10	Do. 6% c.p.	11 11/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94⅜
	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	3½ 3¾
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	12 12½
200,000	10	10	Lever Bros. ... 5% c.p.	10⅜ 11
400,000	10	10	Manchester Ship Canal ord.	21/6 22/-
400,000	10	10	Do. per 5% pref.	30/-
120,000	1	1	Mandelberg ... ord	31/0 32/6
185,145	1	1	Mason and Barry ... ,,	57/6
110,007	10	10	Nitrate Railways ... ,,	13 13½
228,540	10	10	Nobel Dynamite Trust ,,	15⅛
	10	10	Do. share warrants	15⅛
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/-
	1		Pears, A. and F. ... ,,	30/-
70,000	10	10	Pease and Partners ... ,,	13⅜ 13⅝
37,500	16	16	Price's Patent Candle ,,	34
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12⅛
10,000	10	10	Do. 6% c.p.	15⅜
325,000	5	5	Rio Tinto ... ... ord.	7 7/8
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	3/- 3/6
200,000	4	4	Salt Union ... ... ,,	17/3 17/9
100,000	6	6	Do. ... 7% n.c.p.	4½ 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1⅛ 1⅜
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	120
45,000	10	10	Steiner, F. and Co. 5% c p.	9⅛ 9¼
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼ 6¾
289,343	10	10	United A kali ... ord.	81/9
282,524	10	10	Do. ... 7% pref.	11⅞ 11½
80,000	1	1	United Indigo & Chemical ord	2/- 2/3
66,665	5	5	Willans and Robinson ,,	¼ ⅜
210,000	1	1	Woolcombers ... 7% c.p.	19/9 20/-
112,292	4	4	Young's Paraffin ... ord.	73/6

RADIUM.—A Geneva correspondent of the *Tribune* states that Professor Joly, while making a geological examination of the stones, debris, and strata extracted from the centre of the Simplon Tunnel, discovered rich deposits of radium.

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Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

G. L. Co.—The blocks have been returned as requested.

L. O. C.—Thanks for your suggestion, which we are considering.

W. J. K.—Many thanks for letter, with information and suggestions.

G. H. & Co.—We have communicated your address to our correspondent.

Working Manager.—You will find all information respecting tests of gas liquor in "O'Connor's Gas Engineers' Pock t Book," the publishers of which are Messrs. Crosby Lockwood and Son, 7, Stationers' Hall Court, Ludgate Hill, London.

Fire.—On Tuesday last, a serious fire broke out on the premises of Messrs. Parke, Davis and Co., manufacturing chemists, of 111, Queen Victoria-street, E.C., considerable damage resulting.

Glenboig Union Fireclay Co.—The profits for the year ended August 31 were £29,327., including £2,914. brought forward A dividend of 10% and a bonus of 2½%, free of income tax, are recommended, adding £5,000. to the depreciation fund, and £3,000. to the reserve, and carrying forward £2,577.

The Sale of Turpentine.—On Tuesday last, at Stockport, an interesting case was heard by the local magistrates, in which a Stockport chemist was summoned for selling to the prejudice of the purchaser turpentine containing 10% of the lighter fractions of petroleum. The Medical Officer of Health for the borough stated that turpentine was a B.P. drug largely prescribed for heart and lung diseases, as a stimulant, and also for other purposes, and it was essential, therefore, that the drug should be pure. In examination the witness admitted that there was a distinction between oil of turpentine and ordinary common turpentine. Mr. W. Thomson, the Public Analyst for the borough, stated that common turpentine contained a large quantity of resin, while oil of turpentine, which was extracted from the common article, was without resin. He was not aware that crude turpentine was sold in shops. If he asked for turpentine from a chemist he would expect to be served with the oil and not the crude article. The solicitor for the defence argued that the article had to be sold as a drug before there could be a conviction under the Food and Drugs Act. Common turpentine was used for commercial and domestic purposes, and in this case the turpentine was not sold as a drug, but for commercial or domestic use. The magistrates were of opinion that in this case the turpentine was not sold as a drug, and the case was therefore dismissed.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

New York, Sept. 10, 1907.

(Rate of Exchange, $4.86 = £1.)

Nitrate of soda is firm, and there is none offering on spot; prices are from $2.47½. to $2.50. Sulphate of ammonia remains quiet and can be bought at $3.07½. to $3.10. for spot, and $3.05. for future delivery. Grey muriate of ammonia for galvanising is unchanged at 6c.; white electrical is dull at 5¼c. Lump sal ammoniac remains as before, at 9½c. per lb. Lump carbonate of ammonia is also unchanged, with very little doing; prices range from 7¾c. to 7⅞c. per lb. Bleaching powders are sold at $1.30. to $1.35., according to brand. Sulphate of copper is still weaker, and can be had in a small way at 6½c. per lb. White powdered arsenic is firm, at 7¾c. to 7½c. per lb. for spot, and 7¼c. per lb. for future. Red Saxony arsenic is at prices previously reported. Calcined carbonate of potash, 80-85%, is rather firm at 3¾c. Hydrated carbonate of potash is also firm, at 4¾c. Caustic potash, 75%, is unchanged at 5¼c. per lb. Chlorates of potash and soda are at prices previously reported. Bichromate of potash is firm at 8⅛c. to 8¾c. per lb. Bichromate of soda is being sold at 7¼c. to 7½c. per lb. Oxalic acid is rather weak, at $8.45. to $8.50. per 100 lbs.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols quiet, with quotations given at 8¼d. for 90's, and 9d. for 50-90's. Crude tar, 15s. 6d. to 19s. 6d. per ton Thames, 1¼d. to 1⅜d. per gallon delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 26s. 6d. to 27s., f.o.b.; Gas Company, 29s.; East Coast, 25s. 6d. to 26s.; West Coast, 25s. to 26s. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10d. to 10½d.; pure, 1s. 2d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5½d.; 60%, 1s. 8d.; 75%, 1s. 11½d. to 2s.; crystals, 39-40, 5⅝d.; 34-35, 5¼d. Cresylic, 95%, 1s. 1d. to 1s. 1¼d. Anthracene, 40 to 45% A, 1¼d. to 1¾d. Pyridin, 4s. to 4s. 3d. Sulphate of ammonia steady. Nearest values are:—Beckton, October-December shipment, £12. 1s. 3d., January-April, £12. 3s. 9d.; Beckton terms, £11. 12s. 6d.; London, £11. 15s.; Hull, £11. 15s.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; and Leith, £12., forward £12. 2s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined 11s. 9d.; Liverpool ordinary 11s., and refined 11s. 1½d. Cargoes off coast or due, 11s. 1½d.; ditto for prompt shipment, 11s. 7½d.

THE LONDON METAL MARKETS.

Thursday.

Copper: Standard brands, £65. 10s. to £65. 15s. cash, and £65. 15s. to £66. three months. Tin: G.M. quality, £168. 10s. to £169. cash, and £165. 15s. to £166. 5s. three months; English, £170. Lead, soft foreign, £21. 10s. prompt, £21. 7s. 6d. September, £20. 5s. November, and £19. 15s. December; English, £21. 15s. to £22. Spelter, ordinary brands, £20. 15s. to £21., ex ship; hard, £17. 10s., f.o.b. Antimony, £43. to £45.; ore, £14.; Chinese crude, £31., c.i.f. for October-December shipment. Bismuth, 6s. 6d. Quicksilver, £7. 7s. 6d.; seconds, £7. 6s. 6d. Nickel, 1s. 10d. per lb. Aluminium, £155. to £160. Wölfram, 42s. 6d. to 45s.

FERTILISER MATERIALS.

Friday.

A rather better tone prevails in the market, and prices all round are well maintained.

Interest is being displayed in the purchase of East Indian bone meal for shipment, but shippers are firmer in their ideas, and an advance on £4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, is required. On spot, quotations are £5. 5s. to £5. 10s. per ton, according to quality, ex store.

Nitrate of soda is quiet but steady, at 11s. 1½d. per cwt. for ordinary, and 11s. 4½d. per cwt. for refined quality, ex store.

There is no change to report in mineral phosphates.

Miscellaneous nitrogenous material is in good request, and any parcels offering realise full prices.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

A good steady business continues to be done in all descriptions of heavy chemicals. A fair amount of business is also in progress for delivery over the coming year, and prices all round are firm. Bleaching powder remains at £4. 5s. per ton, f.o.r. and f.o.b. Chlorates, 3½d. The position of caustic soda is firm, and price is still without change at £9. 15s. for 70%, f.o.b. Liverpool. Ammonia alkali, 58%, £4. 10s., bags, f.o.r. Soda crystals, 60s. Saltcake, in bulk, 42s. 6d. per ton, f. .r. For acetates a steady demand is maintained for all descriptions. Acetate of lime, brown, is quoted £8. 10s., and grey, 80%, £12. 10s., c.i.f. Sugar of lead is again firmer owing to advance in the metal. Sulphate of copper is somewhat less active, and quotation is rather easier at £23. per ton. Prussiates are firm and in good request, potash at 6d., and soda at 3½d. Ammonia and ammonia salts continue in good request. White powdered arsenic is in better demand, and quotations for best brands still rule from £31. to £31. 10s., Garston.

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LIVERPOOL DRYSALTERIES.

THURSDAY.

Quotations for Montreal potashes and pearl ash are nominal, with nothing offering. Bark steady, with little inquiry for Baltimore. Logwood and fustic quiet at recent quotations. Castor oil inactive, with spot values given at 3¼d. for second pressure French, and 3½d. per lb. for first pressure French and good seconds Calcutta. Cutch steady, but quiet at recent values. Gambier firm but quiet, at 19s. 0d. for store lots of block September-October shipment 18s. 9d., and November December 18s. 6d. per cwt. Cubes, No. 1, 29s. to 29s. 6d.; August-September shipment, 28s.; and October-November, 27s. 10½d. Shellac quiet on spot at recent quotations. Glucose firm, with spot quotations for American liquid, 43°, given at 12s. and 11s. 0d. for October-December; chips, 80°, for shipment 9s. and 8s. 9d., c.i.f., for 70°. American powdered starch on spot, 10s. 3d., and for shipment 9s. 9d. c.i.f. Cream of tartar, 98°, foreign powder, 81s.; 95° 79s. Citric acid: English, 1s. 10¼d.; foreign, 1s. 10d. Tartaric acid: English on spot, 11d. to 11¼d; foreign, 10¼d. to 10⅝d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil firm and in fair demand, sales including Benin on spot at £26. 10s., and for October shipment £27., with Lagos quiet at £29. 7s. 6d. per ton on spot, both in transit. Olive oil quiet with small stocks. Linseed oil firm, at 26s. to 26s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil steady and in fair demand, at 28s. 6d. to 29s. per cwt. Rosin steady, with a fair business passing, and quotations for arrival parcels firm. Turpentine inactive, at 39s. per cwt. for spot parcels. Petroleum quiet at 6¾d. for Russian and Roumanian, and 7¼d. to 8¼d. for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon for spot American.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—Markets generally are strong excepting turpentine, but as regards linseed an easier feeling is more current, and is largely dependent upon the crop from America, all figures and reports of the Argentine crop being unreliable. Amongst the principal imports here to date, as against the same period a year ago, are:—Wheat, 3,020,713 qrs., against 3,027,510 qrs.; flour, 155,067 cwts., against 264,482 cwts.; linseed, 584,338 qrs., against 412,756 qrs.; rapeseed, 83,702 qrs., against 84,478 qrs.; cottonseed, Egyptian, 131,204 tons, against 114,922 tons, other kinds 135,653 tons, against 103,645 tons; oilcake, 19,130 tons, against 30,317 tons; hemp, 99,364 cwts., against 123,800 cwts.; olive oil, 3,554 tuns, against 3,077 tuns; tar, 7,403 barrels, against 10,403 barrels. Amongst the weekly exports are:—Margarine, 1,113 cwts.; lard, 2,039 cwts.; sugar, 28,013 cwts.; glucose, 300 cwts.; wool, 38,900 lbs.; colours, 588 packages; hides, 518 cwts. Exports:—Oil, 10,101 cwts.; colours, 3,016 packages; chemicals, 2,489 packages. Linseed oil has improved by 5s. per ton, closing firm at 24s., naked, spot; October-December, 23s.; January-April, 22s.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—11 tons America, 8 Belgium, 6 Germany, 9 India, 5 Norway; total, 39 tons. Linseed, La Plata, spot 44s.; September-October, 44s. 3d., buyers; December-January, 42s.; January-February, 41s. 9d. Refined cottonseed oil firm spot, easier forward, 25s. 9d. spot and month; October, 24s. 9d.; November-April, 22s. 1½d.; casks £1., and barrels £1. 7s. 6d. per ton extra. Exports during the week:—33 tons Germany, 27 tons Holland; total 60 tons. Cottonseed firm spot, sold at £7. 13s. 9d., ex lighter, and buyers thereat; September, new seed, sold £7. 7s. 0d.; November-January, £6. 17s. 6d. Bombay parcels, September-October, £5. 19s. 6d. bid, Hull; October-November, £6. 0s. 6d.; December-January, £5. 18s. 0d.; January-February, £5. 17s. 6d. Rapeseed, November-December, Jamba, 42s. 6d. Turpentine, spot, 38s. 9d.; October-December, 39s.; January-April, 40s.; Russian, 20s. 6d.; Assyrian, £16. Rosins unchanged. Olive oil, Levant, £40.

CAKES.—Linseed cakes steady, 95° pure, £7. 10s. to £7. 15s.; Canadian, £7. 10s.; Americans, £7. 7s. 6d. Oilcakes, £6. 7s. 6d. Cotton cakes firm, best £5 5s.; Bombay, 2s. 6d. per ton dearer, £4. 2s. 6d. Rape meal, £4.

TYNE CHEMICAL REPORT.

THURSDAY.

Chemicals continue in fairly steady demand, and prices unchanged. Caustic soda in good request at £9. 15s. for 70°, and £10. 10s. per ton for 76-77°. Soda crystals, locally, firm at £3. to £3. 2s. 6d. per ton, gross weights. Bleaching powder quiet, at £5. to £5. 5s. per ton. Sulphur scarce and firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77°, £10. 10s. per ton, nett; do., 70°, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30°, £4. 17s. 6d. per ton, nett; do., 30°, £5. 2s. 6d. per ton, nett; do., 40°, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62°, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60°, £13. per ton, nett; do., crystals, 45-48°, £12. per ton, nett; strontium hydrate crystals, 90-95°, £8. 10s. per ton, nett; do., carbonate, 90-95°, £10. 15s. per ton, nett.

COALS.—Market is if anything a shade easier, and although colliery quotations for all classes of coal are firmly held there is considerable underselling on the part of second hands. Gas and coking coals are in steady demand, but bunker coals are now more plentiful. Coke rather quieter. To-day's prices:—Best Northumbrian steam, 15s. 9d. to 16s. per ton; second qualities, 14s. 3d. to 14s. 6d. per ton; small steam coals, 10s. to 11s. per ton; unscreened coals, 13s. to 13s. 6d. per ton; best gas coals, 15s. 6d. to 16s. 6d. per ton; Durham bunker coals, 13s. 9d. to 14s. 3d. per ton; coking coals, 15s. per ton; household coals, 16s. 6d. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

There is rather more movement amongst the calico printing works, for although the supplies of cotton are still a deterrent, some urgent orders have had to be got through anyhow. As a consequence, the call upon the drysalters for pigments has increased perceptibly, and the prices of these are firm. The ordinary heavy chemicals still come in for a fair daily business, at prices well maintained. Saltcake has advanced a fraction, say 40s. to 42s. 6d. Sulphate of copper has had a further fall. Sulphate of ammonia, Leith and Glasgow deliveries, prompt business, still shows hardly any change from the level of the past few weeks. Scotch mineral oils, solid paraffins, and paraffin spirit are for the most part in good deliveries for the season at prices as lately ruling.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £10. 10s.; 70-72°, £9. 15s.; 60-62°, £8. 15s.; and cream, 60-62°, £8. 15s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 12s. 6d. to £5. 17s. 6d.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 5¾d. to 5⅞d. nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 40s.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £25. 5s., to £25 10s., less 5% Liverpool, prompt.

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IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 14.

Acetic Acid—

Norway,	25 cks.	Weber, Smith & Hoare
Holland,	3	R. W. Greeff
	29 crbys.	& Co.
,,	1,610 pkgs.	W. H. Muller & Co.

Acetone—

U.S.A.,	£800	Fielder, Hickman & Co.

Aluminium—

U.S.A.,	9 t. 8 c.	L. & I. D. Jt. Co.

Aluminium Sulphate—

Holland,	£48	Little & Johnston

Ammonium Muriate—

Holland,	£92	A. & M. Zimmermann

Ammonium Phosphate—

Belgium,	£30	Luke & Bailey

Antimony Ore—

Japan,	4 t.	L. P. D. Co.

Argols—

Spain,	41 brls.	B. Jacob & Son
Italy,	382 bgs.	,,

Arsenic—

Portugal,	£310	G. S. N. Co.

Asbestos—

Italy,	11 t.	Cape Asbestos Co.

Barytes—

France,	2 cks.	Felton &
	190 bgs.	Crepin
Germany,	2	G. Boor & Co.
,,	6	Jessop & Co.
,,	614	G. G. Francis
,,	600	Luke & Bailey
,,	2	W. Harrison
Holland,	49	F. Cartwright
,,	25	O. Lechla
,,	20	M. Ashby
,,	10	F. T. H. Nye
,,	300	Felton & Crepin
,,	77	J. Greig
,,	74	Taylor Bros.
,,	32	Duggan, Niel & Co.
Belgium,	16	B. & F. Wf. Co.
,,	100	W. Harrison
,,	17	G. S. N. Co.
Germany,	20	Steinhoff, Sons & Co.

Bismuth—

Germany,	3 t.	Rigo S.S. Co.

Bleaching Powder—

Germany,	35 t.	J. M. Steel
France,	15	W. H. J. Alexander

Borax—

Germany,	9 t.	H. Lorenz
,,	11 2 c.	Craven & Co.

Bromine—

Germany,	£100	A. & M. Zimmermann

Camphor—

France,	466 cs.	R. Warner & Co.
,,	178	L. & I. D. Jt. Co.

Caoutchouc—

Aden,	4 t. 12 c.	L. & I. D. Jt. Co.
,,	8	Wallace Bros.
,,	2	Major & Field
,,	2 4	Props. Bull Wf.
Egypt,	2 12	Baxter, Hoare & Co.
E. Indies,	1 12	Prop. Hay's Wf.
Holland,	12	Prop. Hay's Wf.
France,	15 c.	Wallace Bros.
,,	6	L. & I. D. Jt. Co.
,,	7	Major & Field
,,	2 t. 11	S. Figgis & Co.
,,	12	Lewis & Peat
Straits,	2 13	Prop. Hay's Wf.
,,	8 18	Lewis & Peat
,,	17	Shand, Haldane & Co.
,,	13	Penang Sugar States Co.
,,	5	W. H. Jewsbury & Co.
,,	6 15	Props. Bull Wf.
,,	8	S. Figgis & Co.
,,	8 4	E. Boustead & Co.
,,	2 15	Prop. Hay's Wf.
Ceylon,	7 11	L. & I. D. Jt. Co.
,,	3	W. N. Smith & Sons
,,	7	Prop. Hay's Wf.
,,	1 2	Rowe, White & Co.
,,	4	Lawrence, Boustead & Co.
,,	7	Hoare, Wilson & Co.
Natal,	2	Hale & Sons
Burmah,	12	L. & I. D. Jt. Co.

Carbon Black—

U.S.A.,	56 bxs.	M.
	100 bls.	Ashby
,,	200 cs.	Binney
	236 brls.	Smith & Co.

Carbonic Acid Gas—

Holland,	£320	W. H. Muller & Co.

Castor Oil—

France,	20 cs.	R. Warner & Co.
,,	6 cks.	Litchfield & Soundy
E. Indies,	27	Cayzer, Irvine & Co.
Belgium,	86 brls.	Fuerst Bros.
,,	12	Lucas & Spencer's Wf.

Caustic Potash—

France,	39 dms.	Kirkpatrick Barr & Co.
Germany,	30	J. M. Steel & Co.

Chalk (French)—

Italy,	£80	Harrison & Co.
France,	67	,,
,,	12	Symons & Co.

Chemicals (*otherwise undescribed*)

Germany,	£14	T. H. Lee
,,	262	W. H. Muller & Co.
,,	7	Prop. Hay's Wf.
,,	26	Argo S.S. Co.
,,	25	W. R. Collyer
,,	11	R. Herrmann
,,	604	A. & M. Zimmermann
,,	114	L. & I. D. Jt. Co.
,,	13	Fuerst Bros.
,,	94	Argo S.S. Co.
U.S.A.,	15	S. Lambert & Co.
,,	2,717	R. W. Greeff & Co.
,,	400	B. & F. Wf. Co.
Belgium,	16	J. Cockerill Line
,,	26	Leach & Co.
,,	12	Wilkins, Campbell & Co.
,,	323	A. & M. Zimmermann
,,	59	L. & I. D. Jt. Co.
,,	15	Argo S.S. Co.
Holland,	6	A. & M. Zimmermann

Chemicals (*otherwise undescribed*)

Sweden,	£10	G. Boor & Co.
France,	8	G. T. Symons & Co.

Citrate of Lime—

Italy,	£829	Thames S. T. & L. Co.

Citric Acid—

France,	4 cks.	L. & I. D. Jt. Co.

Coal Products—

Aniline

Belgium,	18 pks.	John Cockerill Line
,,	9	Friend & Co.

Carbolic Acid

Holland,	50 cks.	J. Owen

Creosote

Belgium,	£1,103	Burt, Boulton & Co.

Pitch

Norway,	150 brls.	Fellows, Morton & Co.
Germany,	100 600 cks.	,,

Tar

N. Russia,	46 brls.	London Oil Storage Co.

Copper Ore—

N.S.W.,	40 t.	London & Rhine S. Office

Copper (Regulus)—

Spain,	41 t.	J. Greig

Cream of Tartar—

France,	2 cks.	B. & F. Wf. Co.
,,	8	T. M. Fairclough & Sons
Holland,	65	S. White
France,	40 kgs.	N. C. Browne
,,	5	F. C. Devon
,,	10	G. S. N. Co.

Dyestuffs (*otherwise undescribed*)—

Belgium,	£6	J. Cockerill Line
Denmark,	2 brls.	Loder's & Vulcadine
Holland,	3	W. H. Muller & Co.

Dyestuffs—

Annatto Extract

Denmark,	1 cs.	L. P. D. Co.

Gambier

Holland,	10 cs.	Butler's Wf.

Myrabolans

E. Indies,	683 bgs.	Wrightson
	604 pkts.	& Sons
,,	108 bgs.	E. J. Winser & Co.
,,	1,080	France, Fenwick & Co.
,,	677	W. Shelcott & Son
,,	300	Props. Bull Wf.
,,	1,000 pks.	S. Barrow Bros.
,,	5,660 pkts.	Union Ltge. Co.

Oakwood Extract

France,	650 cks.	L. J. Levinstein & Son

Sumac

Italy,	500 bgs.	J. Kitchin
,,	50	R. E. Drummond & Co.
,,	100 bls.	Union Ltge Co.

Tanners' Bark

Natal,	108 t.	E. J. Winser & Co.
,,	461	J. T. Rennie, Sons & Co.

Tannin Extract

France,	50 brls.	A. J. Humphrey

Turmeric

E. Indies,	70 bgs.	J. W. Cook & Co.

Vanilla

Germany,	£22	L. & I. D. Jt. Co.

Farina—

Holland,	5 t.	J. Barber & Co.
,,	1 10 c.	Van Dam & Co.

Gelatine—

Holland,	£24	W. H. Muller & Co.
Germany,	11	Argo S.S. Co.
Belgium,	30	J. Cockerill Line

Glue—

Belgium,	£1,132	T. M. Duche
France,	29	Mory & Co.
Germany,	20	Drolenvaux, Brenner
France,	146	J. Harrison
Norway,	50	W. J. Davis
Holland,	49	Hernu, Peron & Co.
Holland,	13	T. H. Lee
U.S.A.,	112	M. Johnson & Co.
France,	15	G. T. Symons & Co.
Germany,	300	L. & I. D. Jt. Co.
N. Russia,	110	Ihlee, Sankey
Holland,	28	Van Dam & Co.
Holland,	26	W. H. Muller & Co.
,,	15	Hernu, Peron & Co.

Gluestock—

N. Russia,	23 t.	Elkan & Co.
Belgium,	1	H. C. Staples
France,	1	15 c. Boutcher, Mortimore & Co.
,,	1	6 G. T. Symons & Co.
Belgium,	10	9 Boutcher, Mortimore & Co.

Glycerine—

Holland,	£350	J. Barber & Co.
,,	3	W. H. Muller & Co.
Victoria,	399	H. Hill & Son

Gold Concentrates—

P. E. Africa,	£529	H. J. Enchovenson

Lead Acetate—

Germany,	£165	M. Dk. Co.

Lead Nitrate—

Italy,	£99	L. & I. D. Jt. Co.

Lead Ore—

P.E. Africa,	37 t.	Fielder, Hickman & Co.

Linseed Oil—

Holland,	3 brls.	Phillipps & Graves
,,	2	W. H. Muller & Co.

Lithopone—

Holland,	140 cks.	J. D. Bull
,,	54	J. F. Lauderdale
Germany,	100	A. Zumbrecht

Magnesite—

Holland,	£15	J. A. Ebner
Germany,	6	Argo S.S. Co.

Magnesium Chlorate—

Germany,	£136	Fuerst Bros.
,,	156	Humphery & Co.

Manganese Ore—

Belgium,	10 t.	B. & F. Wf. Co.
Germany,	3	H. A. Gilbert & Co.

Oleine Oil—

France,	2 tuns	Kearley, Tonge
,,	1 154 g.	L. & I. D. Jt. Co.
,,	3	Nicholls Wvs.
,,	48	L. & I. D. Jt. Co.
,,	30	J. Coppo & Co.
,,	60	L. & I. D. Jt. Co.
,,	20	Middleton's Wf.
,,	1 149	Gill, Duffus

Oxalic Acid—

Norway,	20 cks.	W. H. Smith
Holland,	4	T. H. Lee

Paraffin Scale—

U.S.A.,	383 t. 6 c.	Anglo American Oil Co.

Paraffin Wax—

E. Indies,	16 t.	H. Hill & Son
U.S.A.,	12	14 c. G. Jenning
,,	137	14 Anglo Amer. Oil Co.
Germany,	1	T. H. Lee
Holland,	9	2 Leach & Co.
Germany,	1	T. H. Lee
U.S.A.,	10	7 Mordaunt Bros.

Phosphate of Lime—

France,	388 t.	

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Plumbago—
Ceylon, 390 brls. J. Thredder, Son & Co.
,, 45 A. Bramwell & Co.
,, 894 bgs. Marshall & French
Japan, 70 cks. McDougal Brothers
Ceylon, 700 L. & I. D. Jt. Co.
,, 16 brls. Thredder, Sons & Co.
N.S.W., 242 bgs. N. Z. L. & M. A. Co.
Ceylon, 85 brls. Doulon & Co.

Potassium Bicarbonate—
Holland, 5 kgs. A. & M. Zimmermann

Potassium Carbonate—
Holland, 10 cks. R. W. Greeff & Co.
France, 4 Petri Bros.
Belgium, 2 Charles & Fox
Germany, 10 J. M. Steel
,, 20 J. W. Cook & Co.
Canada, 17 brls. Charles & Fox

Potassium Chlorate—
France, 20 cks. J. Harrison
Sweden, 4 30 kgs. G. Boor & Co.

Potassium Cyanide—
Germany, £516 Pickfords, Ld.

Potassium Iodide—
Japan, £400 L. & I. D. Jt. Co.

Potassium Permanganate—
Germany, 70 kgs. J. M. Steel & Co.
,, 20 cks. Craven & Co.

Potassium Prussiate—
Belgium, 4 cks. W. Smith
Germany, 3 L. & I. D. Jt. Co.
,, 2 kgs. W. Smith

Pyrites (Copper)—
Spain, 1,099 t. Anderson, Anderson
,, 2,089 Tennant & Son

Pyrogallic Acid—
Holland, 1 cs. W. H. Smith & Co.

Red Lead—
Holland, 32 cks. J. D. Budd

Ripolin—
Holland, 141 cks.4 dms. Phillipps & Graves

Rosin—
Holland, 1 ck.Van Dam & Co.
U.S.A., 150 Rosin Turp. Imports Co.
,, 150 brls. Moore, Kale
U.S.A., 1,450 Produce Brokers Co.
Belgium, £30 J. Harrison
Germany, 10 B. & F. Wf. Co.
France, 100 cks. J. Watt & Son
Holland, 38 pks. W. H. Muller & Co.

Saltpetre—
Germany, 40 t. P. Hecker & Co.
E. Indies, 50 Curtis & Harvey
Germany, 11 c. L. & I. D. Jt. Co.

Silver Concentrates—
P.E.Africa, £409 H. J. Enchoven

Silver Nitrate—
Germany, £300 T. H. Lee

Soap—
U.S.A., £42 T. L. Field
,, 26 Hertz & Co.
,, 516 Merten & Co.
,, 240 Butler's Wf.
,, 45 Lament, Corless & Co.
France, 249 D. W. Gibbs & Co.
,, 6 Mory & Co.
,, 140 Phillipps & Homer
Holland, 49 W.H.Muller & Co.
,, 65 B. & F. Wf. Co.
Germany, 15 Craven & Co.
,, 26 Hertz & Co.
,, 30 L. & I. D. Jt. Co.

Soap Powder—
U.S.A., £158 Mercantile Ltge. Co.
Holland, 8 W.H.Muller & Co.
Belgium, 5 J. Cockerill Line
Holland, 8 W.H.Muller & Co.
Germany, 353 London & Rhine S. Office
U.S.A., 160 G. & J. Nickson

Soda—
Holland, 5 t. A. & M. Zimmermann
Germany, 5 H. Lorenz
,, 10 Petri Bros.
,, 1 9 c. A. & M. Zimmermann
Holland, 6 16 W. H. Muller & Co.

Soda Crystals—
Holland, 95 t. P. Windmuller & Co.
,, 64 10 c. W. H. Muller & Co.

Sodium Bicarbonate—
Germany, 32 t H. Kinkler

Starch—
U.S.A., 27 W. Grose & Co.
,, 20 Knight Bros.
,, 50 R. G. Hall & Co.
Holland, 50 Bennett's H l ge Co.
,, 17 5 c. J. Barber & Co.
,, 1 Burgoyne & Co.
,, 24 W.H.Muller & Co.
,, 6 Little & Johnston
Belgium, 1 2 Page, Son & East
,, 8 10 J. Harrison
,, 2 10 Sheldon & Co.
,, 6 4 Leach & Co.
,, 10 F. Walker
,, 1 C. L. Wood & Co.
,, 1 W. Meyerstein
France, 14 10 C. E. Wood
,, 12 A. C. Hitchcock
,, 8 5 E. T. Pink

Stearine—
France, 60 bgs. Hill & Sons
,, 200 Boor & Co.

Sulphur—
Italy, 100 t. G. Boor & Co.
,, 50 Curtis & Harvey

Tallow—
China, 380 pks. Colchester, Woolner
,, 380 Thornett & Fehr
,, 112 Mordaunt Bros.
Brisbane, 58 cks. France, Fenwick & Co.
Belgium, 84 J. Harrison
,, 63 bgs. H. Hill & Sons
,, 127 G. Jennings
U.S.A., £310 Settle, Son & Co.
,, 10 brls. C. F. Took
,, 15 kgs. ,,
,, 172 W. H. J. Alexander
Holland, 26 W.H.Muller & Co.
N.S.W., 56 cks. McDougall & Drontheim
,, 40 Phillipps&Graves
,, 1 A. J. Humphrey
,, 10 Maritime L. Co.
Victoria, 54 Hill & Son
,, 28 Goad, Rigg & Co.
,, 28 Lampson & Co.
,, 13 pps. ,,
,, 20 A. Kent

Tannic Acid—
Holland, 3 cs. W. H. Muller & Co.
Germany, 5 kgs. E. J. Hall & Co.

Tartar—
Italy, £600 J. W. Cook & Co.

Tartaric Acid—
Holland, 4 cks. F. C. Devon & Co.

Thorium Nitrate—
Germany, £275 T. H. Lee
,, 338 Argo S.S. Co.

Turpentine—
U.S.A., 2,100 brls. Goodlake & Nutter
N. Russia, 52 Dussek Bros. & Co.
,, 48 Wood & Vole

Ultramarine—
Holland, 3 cs. W. H. Muller & Co.
Belgium, 2 ,,
,, 1 O. Lechla
,, 8 Felton & Crepin
Germany, 9 Argo S.S. Co.
,, 15 ,,
,, 8 cks. J. D. Budd

Ultramarine—
Holland, 2 cks. W. H. Muller & Co.

Wax—
Germany, 40 bgs. P. J. Johnson
,, 2 Felton & Crepin
,, 37 53 pks. T. H. Lee
,, 4 Phillipps & Graves
,, 49 A. Kent
,, 11 Wilkins, Campbell & Co.
,, 49 Prop. Hay's Wf.
,, 11 L. & I. D. Jt. Co.
France, 2 Props. Bull Wf.
,, 1 cs. L. & I. D. Jt. Co.
,, 1 St. ThewCo.
,, 76 nats Figgis & Co.
,, 1 Mory & Co.
Japan, 50 Kever Co.
Aden, 8 Major & Field
Italy, 4 Nich.'s Wvs.

White Lead—
Holland, 45 pks. Taylor Bros.
,, 24 Perkins & Homer
France, 1 ck.A.C.Hitchcock
,, 81 brls. J. Watt & Co.
Belgium, 74 cks. T. W. Farmiloe
,, 46 G. Farmiloe
Germany, 49 Randall Bros.
,, 65 Spies Bros. & Co.
,, 4 cs. Argo S.S. Co.

Wolfram Ore—
Portugal, 2 t. Hoare, Wilson & Co.

Zinc Oxide—
Germany, 100 cks. Burrell & Co.
Holland, 30 brls. M. Ashby
Germany, 26 Weber, Smith & Hoar
Holland, 100 M. Ashby
,, 200 Litchfield & Soundy
U.S.A., 600 brls. M. Ashby

Zinc Ore—
P.E.Africa, 35 t. Fielder, Hickman & Co.

Zinc White—
Holland, 5 cks. W. H. Muller & Co.

LIVERPOOL.

Week ending September 12.

Acetic Acid—
Rotterdam, 20 cks.4 blns.

Aluminium—
Havre, 20 bgs. Cunard S.S. Co.

Antimony (Crude)—
Hamburg, 10 cs.

Barytes—
Antwerp, 55 cks.

Bones—
Antwerp, 45 bgs.

Borax—
Dunkirk, 140 cks.
Genoa, 1 cs.

Caoutchouc—
Havre, 12 cks. Cunard
51 pks. S.S. Co.

Ceresine—
Rotterdam, 20 bgs.
Hamburg, 20

Chemicals (*otherwise undescribed*)
Fredriksstad, 8 cks.

Colours—
Rotterdam, 7 cks.
Hamburg, 4

Copper Ore—
Valparaiso, 280 sks. Hainsworth & Watson
,, 6 Gunston, Sons & Co.
,, 201 bgs. Bremner, Nelson & Co.
,, 143 A. Gibbs & Son
,, 207 Steinhardt, Walker & Co.
,, 1,145 Vivian, Sons & Co.
,, 167

Copper Ore—
Lisbon, a qty.
Oporto, ,,
Valparaiso, ,,

Copper (Regulus)—
Valparaiso, 354 bgs. A. Gibbs & Son
,, a qty.

Cottonseed Oil—
N. Orleans, 250 brls.

Cream of Tartar—
Bordeaux, 111 cks.

Dyestuffs—
Annatto
Amsterdam, 30 bgs.
Cochineal
Teneriffe, 10 bgs. A. D. Hitch & Co.
Las Palmas, 12 Yeoward Bros.
Fustic
Cartagena, 738 bgs.
Hemlock Extract
Newport N., 50 brls.
Oak Extract
Fiume, 441 brls.
Sumac
Palermo, 670 bgs.
Tannin Extract
Bordeaux, 647 cks.
Valonia
Smyrna, 96 t.806 bgs.

Ether—
Hamburg, 1 cs.

Farina—
Fiume, 100 bgs.

Glucose—
New York, 600 brls. Corn Prod. Co.

Glue—
St. Nazaire, 6 cks. 15 cs.
Fiume, 100 bgs.
Boston, 64 crts.
Hamburg, 40 brls.

Gold Ore—
Valparaiso, 100 bgs. A. Gibbs & Sons

Iodine—
Valparaiso, 96 kgs. Gibbs & Sons

Lactic Acid—
Hamburg, 9 cks.

Lead Ore—
Varparaiso, a qty.

Litharge—
Rotterdam, 138 cks.

Lithopone—
Rotterdam, 20 cks.

Magnesite—
Amsterdam, 200 bgs.
Trieste, 566 50 cs.
Fiume, 595

Manganese Silicate—
Bordeaux, 65 cks.

Mineral White—
Bordeaux, 300 bgs. 500 sks.
Trieste, 615

Molasses—
Philadelphia, 719,910 gals.

Olive Oil—
Smyrna, 193 brls.
Bordeaux, 179 cs.

Paraffin Scale—
New York, 100 brls. Anglo-Am. Oil Co.

Potash—
Hamburg, 44 cks. 30 dms.

Potash Lye—
Hamburg, 20 dms.

Phosphate Rock—
Tampa, 2,300 t.

Phosphorus—
Montreal, 200 cs.

Potassium Oxalate—
Rotterdam, 10 kgs.

Pyrites—
Barcelona, 5 bgs.

Pyrites (Iron)—
Huelva, 301 t.

Quartz—
Rotterdam, 1 bg.

Red Lead—
Rotterdam, 74 cks.

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Rosin—
Bordeaux, 580 cks.
Lisbon, a qty.
Oporto, „

Rubber—
Benin River, 8 cks. Miller, Bros. & Co.
Koko Town, 7 Bey & Co.
Assini, 4 Dunlop Tdg. Co.
„ 1 McLaren, Bros. & Co.
„ 4 Cie Francaise
Lahou, 14
„ 3 Ward & Co.
„ 2 Woodin & Co.
„ 3 Hamilton & Co.
„ 3 Spencer & Co.
„ 1 McNiel, Scott & Co.
„ 3 L. Freres
„ 17 R. & W. King
„ 17 Cie Francaise
S. Leone, 6 Ratcliffe & Co.
Conakry, 4 Diaper & Co.
„ 4 bgs. Cie Franc.
„ 8 V. Lohmann
„ 5 bdls. „
Lisbon, 10 bgs.
New York, 37 bls.
Hamburg, 2 cks.
Burutu, 182 bgs. Niger Co.
„ 37 Siegler & Co.
„ 1 ck. Barber & Garrett
Lagos, 2 Lagos Stores, Ld.
„ 7 Russell & Co.
C. C. Castle, 2 1 cs. „
Maranham, 13 pks.
Ceara, 932

Salt (Waste)—
Hamburg { 2,500 bgs. 300 t.
„ 125 cks.

Silver Ore—
Valparaiso, a qty.
„ 319 sks. H. Bath & Son
„ 21 W. R. Grace & Co.
„ 80 Greening & Co.
„ 227 F. Huth & Co.
„ 50 Aramayo & Co.
„ a qty.
„ „

Silver (Regulus)—
Valparaiso, a qty.

Soap—
Amsterdam, 2 cks. 1 cs.
Smyrna, 23
Philadelphia, 5
Bari, 207
Constantinople, 20
W. C. Africa, 1 Millward & Bradbury
Karachi, 5
N. Orleans, 675 brls.

Starch—
Antwerp, 1,415 cs.
Dunkirk, 280
Amsterdam, 40 bxs.
Rotterdam, 23 cks.
Hamburg, 30
Fiume, { 50 130 bgs.

Stearine—
Antwerp, 25 bgs.

Tallow—
Montreal, 75 trcs.
Phila'phia, 260
Boston, 150 brls. H. A. Lane & Co.
Portland, 150 „
Genoa, 4 pks.
N. Orleans, 100 trcs.
Pensacola, 110 brls. J. Davidson

Tartaric Acid—
Bari, 34 brls.

Ultramarine—
Rotterdam, 16 cks.

Wax—
Paranahybs, 73 bgs.
Valparaiso, 8 sks. Balfour & Williamson
„ 26 Ducan, Fox & Co.
„ 82 Severin Bros.
„ 27 bgs. „

White Lead—
Trieste, 20 brls.

Zinc Oxide—
Rotterdam, 10 cks.
New York, 300 brls.

MANCHESTER.

Week ending September 12.

Antimony Salt—
Rotterdam, 4 cks.

Asbestos—
Genoa, 60 bgs.
Montreal, 399

Barytes—
Antwerp, 40 bgs.
Hamburg, 28 cks.
Rotterdam, 20 300

Calcium Carbide—
Christiania, 110 dms.

Chemicals (*otherwise undescribed*)
Ghent, 50 bgs.
Hamburg, 72 cks.
Rotterdam, { 14 1 cs. 11 brls.

Citric Acid—
Bordeaux, 12 cks.

Coal Products—
Alizarine
Rotterdam, 4 cks.
Naphthol
Rotterdam, 16 brls.

Cobalt Oxide—
Rouen, 7 cs.

Colours—
Hamburg, 2 cks.
Rotterdam, { 202 brls. 24 10 cs.

Cottonseed Oil—
Rotterdam, 200 brls.

Dextrine—
Stettin, 125 bgs.

Dyestuffs—
Indigo Paste
Rotterdam, 45 cks.

Farina—
Hamburg, 100 bgs.
Rotterdam, 100

Ferro Chrome—
Rouen, 42 cks.

Gelatine—
Rouen, 35 cs.
Rotterdam, 6

Glue—
Antwerp, 100 bls.
Rotterdam, { 39 bgs. 10 cs.

Lead Acetate—
Rotterdam, 8 cks.

Litharge—
Rotterdam, 48 cks.

Mineral White—
Bordeaux, 200 bgs.
Genoa, 100

Olive Oil—
Leghorn, 6 cs. 60 bxs.

Oxalic Acid—
Rotterdam, 15 cks.

Phosphate—
Antwerp, 17 cks.

Phosphorus—
Montreal, 150 cs.

Potash—
Hamburg, 33 dms.

Potassium Oxalate—
Rotterdam, 2 cks.

Potassium Permanganate—
Hamburg, 12 cks.

Potassium Prussiate—
Antwerp, 15 cks.

Red Lead—
Rotterdam, 6 cks.

Rosin—
Bordeaux, 300 cks.
Rotterdam, 2

Rubber—
Hamburg, 4 cs.

Salt—
Hamburg, a qty.

Soap—
Boston, 400 cs.
Genoa, { 40 13 cks.
Rotterdam, 6 brls.

Soapstone—
Genoa, 400 bgs.

Starch—
Dunkirk, 210 cs.
Amsterdam, 100
New York, 100 bgs.
Antwerp, 509

Stearine—
Antwerp, 58 bgs.

Talc—
Genoa, 202 bgs.

Ultramarine—
Rotterdam, { 17 cks. 51 cs.

Wax—
Hamburg, 5 cs.

Zinc Dust—
Dunkirk, 36 cks.

Zinc Oxide—
Antwerp, 2 cks.

HULL.

Week ending September 14.

Aluminium Sulphate—
Ghent, 50 bgs.

Asbestos—
St. Petersburg, 39 bgs.

Barytes—
Antwerp, 76 cks. 300 pks.

Calcium Carbide—
Christiania, 20 dms.

Chalk—
Rouen, 4 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 4 cks. Hull & N.
4 brls. S.S. Co.
Hamburg, 6 cs.

Coal Products—
Alizarine
Alderney, 9 cks. Hull & N. S.S. Co.
Rotterdam, 113 pks. „
Aniline
Rotterdam, 307 pks.
„ 60 Hull & N. S.S. Co.
Creosote Salt
Rotterdam, 4 cks. Hull & N. S.S. Co.
Tar Oil
Rotterdam, 80 cks. Hull & N. S.S. Co.

Colours—
Rotterdam, 179 pks. Hull & N.
17 cks. S.S. Co.
Hamburg, 2 2 cs.
Amsterdam, 6 15 Hull & N. S.S. Co.

Dextrine—
Stettin, 50 bgs. Wilson, Sons & Co.

Dyestuffs—
Indigo
Rotterdam, 4 brls. Hull & N. S.S. Co.
Myrabolans
Bombay, 273 t. 6 c.

Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.
Rotterdam, 17 cks. „
„ 170 pks. „
Stettin, 40 bgs. Wilson, Sons & Co.

Glucose—
Rotterdam, 20 bgs. Hull & N. S.S. Co.
Stettin, 5 cks. Wilson, Sons & Co.

Litharge—
Rotterdam, 15 cks. Hull & N. S.S. Co.

Molasses—
Alexandria, 100 brls.

Phosphate—
Ghent, 1,500 bgs.

Potash—
Hamburg, 20 dms. Wilsons & N. E. R. S. Co.

Salt—
Hamburg, 20 bgs.

Soap—
Rotterdam, 6 brls. Hull & N. S.S. Co.

Soda—
Alderney, 305 bgs. Hull & N. S.S. Co.

Soda Crystals—
Ghent, 50 bgs.

Starch—
Ghent, 50 cs.
Antwerp, 40
Dunkirk, 40

Sulphur—
Bremen, 37 brls. Veltmann & Co.

Wax—
Hamburg, 13 pks. Wilsons & N. E. R. S. Co.

White Lead—
Rotterdam, 32 cks. Hull & N. S.S. Co.

Zinc White—
Rotterdam, 20 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending September 19.

Acetic Acid—
Rotterdam, 26 cks.

Albumen—
Hamburg, 7 cs.

Ammonium Phosphate—
Antwerp, 14 cks.

Asbestos—
Rotterdam, 2 cs.

Barytes—
Rotterdam, 33 cks.

Bleaching Powder—
Hamburg, 27 cks.

Caoutchouc—
Boston, 18 cs.
Hamburg, 3 cks.

Carbon Black—
New York, 20 brls.

Ceresine—
Hamburg, 60 bgs.

Chemicals (*otherwise undescribed*)
Rotterdam, { 5 cks. 1 brl. 1 crt. 40 cs.

Chrome Ore—
Ghemlek, 855 t. J. & J. White
Macri, 1,725 „

Citric Acid—
Bordeaux, 6 cks.

Coal Products—
Creosote Salts
Rotterdam, 4 cks.
Paranitraniline
Rotterdam, 20 cks.

Colours—
Rotterdam, 255 cs.

Cream of Tartar—
Bordeaux, 75 cks.
Valencia, 5

Dyestuffs—
Indigo Paste
Rotterdam, 25 cks.
Logwood Extract
New York, 5 cks.
Quebracho Extract
B. Ayres, 400 bgs.

Glucose—
Rotterdam, 12 cks.

Glue—
Antwerp, 9 brls.

Iron Oxide—
Antwerp, 6 cks.

Linseed Oil—
Amsterdam, 59 brls.

Litharge—
Rotterdam, 8 cks.

Lithopone—
Rotterdam, 56 cks.

Nickel Ore—
Bourdin Povo, N. C., 3,030 t. The Nickel Co.

Oxalic Acid—
Hamburg, 2 cks. 5 cs.

Potash Lye—
Hamburg, 50 dms.

Potassium Binoxalate—
Hamburg, 1 ck.

Potassium Chromate—
Rotterdam, 14 cks.

Pyrites (Copper)—
Huelva, 2,469 t. Tharsis S. & C. Co.

Red Lead—
Rotterdam, 24 cs.

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Rosin—
Bayonne, 15 cks.
Hamburg, 133 pks.
Salt—
Hamburg, 1,000 bgs.
Salt (Waste)—
Hamburg, a qty.
Silicon—
Gothenburg, 8 bgs.
Soap—
New York, 165 brls.
Genoa, 212 cs.
Soap Powder—
New York, 1,200 bxs.
Soda—
Hambur,g 100 cks.
Starch—
New York, 1,400 bgs.
Antwerp, 80 cs.
Ghent, 20
Rotterdam, 50
Stearine—
Antwerp, 50 bgs.
Tallow—
Boston, 249 brls.
Tartar—
Bordeaux, 55 cks.
Wax—
Montreal, 149 brls.
Hamburg, 4 pks. 60 bls.
White Lead—
Rotterdam, 163 cks.
Zinc Oxide—
Rotterdam, 4 cks.
Hamburg, 98

TYNE.

Week ending September 14.

Barytes—
Rotterdam, 52 cks. Tyne S.S. Co.
Bleaching Powder—
Rotterdam, 1 ck. Tyne S.S. Co.
Calcium Carbide—
Bergen, 311 dms. P. H. Matthiessen
Coal Products—
Tar
Hamburg, 50 cks. J. Scott & Co.
Colours—
Rotterdam, 2 cks. Tyne S.S. Co.
Antwerp, 27 crts. ,,
Hamburg, 1 ck. ,,
Copper Ore—
Antwerp, 41 t. Tyne S.S. Co.
Copper Oxide—
Hamburg, 34 dms.
Copper (Precipitate)—
Huelva, 226 t. The Tharsis Sulphur Co.
Glue—
Antwerp, 20 bls. Tyne S.S. Co.
Magnesite—
Amsterdam, 200 bgs. W. Swanston
Olive Oil—
Valencia, 1 cs. Stanley, Gallagher & Co.
Salt—
Hamburg, 500 bgs. Tyne S.S. Co.
Soda—
Rotterdam, 1 ck. Tyne S.S. Co.
Starch—
Rotterdam, 59 cs. Tyne S.S. Co.
Stearine—
Rotterdam, 20 bgs. Tyne S.S. Co.
Antwerp, 2 ,,
Tartaric Acid—
Rotterdam, 20 cks. Tyne S.S. Co.
White Lead—
Rotterdam, 25 cks. Tyne S.S. Co.

GOOLE.

Week ending September 14.

Aluminium Sulphate—
Ghent, 50 bgs.
Barytes—
Rotterdam, 23 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 135 bgs.
Dunkirk, 4 cks.
Hamburg, 132 13 cs. 36 dms.
Rotterdam, 8 4
Coal Products—
Creosote Salt
Rotterdam, 41 cks.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 290 bgs. 1 ck.
Hamburg, 165 7 cs.
Rotterdam, 270 49
Dyestuffs—
Indigo
Rotterdam, 7 cks.
Farina—
Amsterdam, 60 bgs.
Glue—
Rotterdam, 20 cs.
Lead Acetate—
Rotterdam, 4 cks.
Magnesite—
Amsterdam, 50 bgs.
Oleine—
Rotterdam, 2 cks.
Antwerp, 4 brls.
Pyrites (Iron)—
Bossino, 950 t.
Salt (Waste)—
Hamburg, 200 t. 500 bgs. 656 cks.
Sodium Chromate—
Rotterdam, 25 cks.
Starch—
Ghent, 52 cs.
Antwerp, 20
Wolfram Ore—
Rotterdam, 10 cs. British M. & M. Co.

GRIMSBY.

Week ending September 12.

Acetic Acid—
Helsingfors, 19 pks.
Albumen—
Hamburg, 1 cs.
Barytes—
Antwerp, 50 bgs.
Caoutchouc—
Hamburg, 47 cs.
Antwerp, 8
Chemicals (*otherwise undescribed*)
Hamburg, 9 cs.
Coal Products—
Aniline Dye
Antwerp, 46 pks.
Tar Dye
Rotterdam, 7 pks.
Colours—
Antwerp, 67 pks.
Hamburg, 1 ck. 27 cs.
Rotterdam, 1
Dyestuffs (*otherwise undescribed*)—
Antwerp, 4 cks.
Glue—
Hamburg, 200 bgs.
Antwerp, 6 cks.
Starch—
Antwerp, 40 cs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 18.

Alcohol (Wood Spirit)—
Talcahuano, 2,200 g.
Hamburg, 700
Havre, 345
Ammonia—
Kobe, 15 cs. £27
Shanghai, 50 28
Durban, 30 75
Calcutta, 19 25
Rangoon, 10 15
Townsville, 5 8
Hong Kong, 2 6
Delagoa Bay, 6 9
Bombay, 5 8
Melbourne, 50 103
Hong Kong, 4 12
Durban, 10 15
Karachi, 2 15
Delagoa Bay, 10 10
Adelaide, 15 34
Newcastle, N.S.W., 4 12
Ammonia (Anhydrous)—
E. London, 6 cylndrs. £80
P. Elizabeth, 10 140
Calcutta, 10 cs. 80
Ammonium Carbonate—
Odessa, 20 t. £30
Antwerp, 10ck.10 brls. 57
Bombay, 4 cs. 16
Dunedin, 10 31
Berbice, 3 6
Beira, 4 27
Hamburg, 17 15
Cologne, 10 60
Lyttelton, 3 5
Ammonium Citrate—
Hamburg, 1 c. £11
Ammonium Fluoride—
Demerara, 2 t. £133
Ammonium Nitrate—
New York, 12 cks. £95
Ammonium Sulphate—
Grenada, 1 t. £13
Yokohama, 695 15 c. 8,300
Kobe, 560 5,720
Rouen, 49 5 590
Hamburg, 61 10 710
Valencia, 75 17 750
Antimony (Regulus)—
Montreal, 100 c.
Arsenic—
Adelaide, 20 dms. £18
Asbestos—
Bombay, £20
Calcutta, 125
Stockholm, 101
Sydney, 26
Barium Binoxide—
Paris, 20 t. 12 c. £701
Bisulphite of Lime—
C. Town, 6 hhds. £7
Bones—
Boston, 60 t. £300
Boracic Acid—
Mombasa, 2 c. £5
Borax—
Adelaide, 1 t. £21
Sydney, 2 15 c. 100
B. Ayres, 3 cks. 6
Calcium Carbide—
Penang, 4 cs. £10
Calcium Chloride—
Zanzibar, 1 t. 3 c. £5
Lisbon, 3 1 10
Carbon Bisulphide—
Otago, 30 dms. £40
Sydney, 40 24
Adelaide, 100 tcs. 136
B. Ayres, 3 t. 6 c. 33
Caustic Soda—
Perth, 2 t. £20
Delagoa Bay, 6 c. 7
Melbourne, — — — 29
Chalk—
Odessa, 425 t.
P'delphia, 1,000
Bordeaux, 500
Calcutta, 100
Chemicals (*otherwise undescribed*)
Adelaide, 50 cs. £19
Melbourne, 220 40 tcs. 275
C. Town, 7 pks. 27
Christiania, 2 23
E. London, 100 2 71
Colombo, 1 16
Chemicals (*otherwise undescribed*)
Brussels, 8 cks. £33
Hong Kong, 3 9 cs. 3 kgs. 123
Christiania, 1 12
Venice, 8 19
Ostend, 2 22
Singapore, 7 23
Bombay, 5 39
Bergen, 1 48
Rockhampton, 20 44
Yokohama, 1 16
Ostend, 4 130
Hamburg, 1 20
Townsville, 4 8
Delagoa B., 50 dms. 7
Lyttelton, 1 9
Citric Acid—
Dunedin, 1kg. 1 cs. £11
Calcutta, 4 6
Genoa, 20 21
Velson, 1 c. 11
Rotterdam, 1 15 kgs. 99
Hamburg, 1 t. 2 58
Gibraltar, 1 16
Coal Products (*otherwise undes.*)—
Boston, 300 brls. £320
Sydney, 100 dms. 9
Coal Products—
Alizarine
Tuticorin, 38 cks. £304
Madras, 61 196
Calcutta, 6 68
Bombay, 189 650
Aniline Dye
Boulogne, 8 pks. £63
Carbolic Acid
P'delphia, 50 cks. £326
Boston, 34 144
Melbourne, 30 dms. 16
N. York, 10 37 10 cs. 490
Carbolic Acid (Crystals)
Mollendo, 3 cks. £11
Creosote
Toronto, 20 cks. £31
Naphtha
Adelaide, 25 cks. £30
Naphthaline
Cologne, 1,976 bgs. £402
Calcutta, 80 cs. 34
Coal Products—
Pitch
Rangoon, 100 kgs. £34
Treport, a qnty. 34
Melbourne, 5 brls. 8
Auckland, 7 cks. 48
Rotterdam, 6 32
P'delphia, 111 650
Tar
Rangoon, 50 dms. £20
Delagoa B., 50 10 brls. 17
Melbourne, 6 8
Hamburg, 10 cks. 8
Antwerp, 20 16
Tar Oil
Rotterdam, 10 cks. £14
Gothenburg, 200 brls. 200
Copper Sulphate—
Trinidad, 10 c. £14
Wellington, 1 t. 5 47
Calcutta, 5 150
Auckland, 10 14
Cottonseed Oil—
Antwerp, 17 t. 12 c.
Genoa, 9
Rouen, 4 4
Rotterdam, 27 14
Gibraltar, 4 7
Marseilles, 75 4
Rouen, 10 3
Cream of Tartar—
Durban, 17 c. £67
Cyanide (*otherwise undescribed*)—
New York, 7 t. £530
Tampico, 4 349
Montreal, 11 c. 40
Disinfectants—
Cape Town, 8 cs. £25
Bombay, 60 dms. 5
Rangoon, 10 280 76
Mombasa, 6 1,000 190
Tientsin, 10 cks. 73 35
Calcutta, 550 58
Hamburg, 6 62 25
Auckland, 2 100 21
Zanzibar, 50 12
Melbourne, 10 100 44
H. Kong, 30 50 302
Singapore, 294 50
Wellington, 1 20 30

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Disinfectants—
Brisbane, 20 kgs. 2 pks. / 12 cs. £33
Durban, 3 7
Dunedin, 1 tnk. 1 46
Sydney, 38 54 169
Delagoa Bay, 200 165
Jamaica, 2 cks. 13
Nelson, 1 5
P. Sudan, 1 5
Trinidad, 1 5

Fertiliser—
Copenhagen, 6 c. £4

Glycerine—
Sydney, 1 c. £16
Montreal, 3 5

Guano—
Bermuda, 25 t. £184

Linseed Oil—
Adelaide, 16 t. 3 c.
Barbadoes, 3 1
Brisbane, 22 5
Bundaberg, 3 12
Canaries, 1 7
Cape Town, 1 8
Ceara, 2 5
Demerara, 1 15
E. London, 8
Fiji, 1 5
Halifax, 22 3
Madeira, 9
Malta, 3 14
Melbourne, 3 10
Mombasa, 5 5
Newcastle, 33 1
Pernambuco, 3 12
Rockhampton, 10
Shanghai, 5
Thursday Is., 1 7
Kulindini, 1 1
Aden, 2
Bombay, 2
Calcutta, 3
Delagoa B., 2 16
Durban, 2 3
Fremantle, 2
Genoa, 15
H. Kong, 1
Limon, 13
Madras, 1
Montreal, 12
Oporto, 1
Piræus, 1 1
Rangoon, 3 16
R. Grande, 12 5
Rio de Jan., 1 8
Santos, 2 12
Smyrna, 3 8
Sydney, 1

Magnesite (Calcined)—
Marseilles, 11 cks. £41

Manganese Bronze—
Bremen, 1 t. 6 c.

Manure—
Philadelphia, 1 t. 11 c. £23
Malaga, 40 100
Delagoa Bay, 4 14 22
New York, 2 3
Genoa, 20 140
Bordeaux, 9 18 31
Lisbon, 300 715
Hamburg, 11 6 63
Jersey, 3 10
Valencia, 99 19 356
Guernsey, 1 9

Mercury Oxide—
New York, 1 ck. £136

Oxalic Acid—
Melbourne, 5 cks. £51

Pearl Ash—
Jamaica, 4 c. £6

Phosphoric Acid—
Otaga, 1 cs. £19

Phosphorus—
Wellington, 5 cs. £35
Sydney, 58 t. 24 pks. 463

Potash—
Sydney, 3 c. £21
Barcelona, 1 8
Wellington, 11 14

Potassium Chlorate—
Penang, 14 c. £60

Potassium Cyanide—
Beira, 12 c. £28

Potassium Nitrate—
Liverpool, 2 c. £17

Potassium Permanganate—
Yokohama, 1 t. £37

Potassium Prussiate—
B. Ayres. 2 c. £6

Potassium Sulphide—
Boston, 1 t. 2 c. £7

Salammoniac—
Melbourne, 10 c. £15
Kilindina, 5 7

Salt—
Wellington, 10 t.

Saltcake—
Adelaide, 10 t. £34
Oporto, 11 16 c. 290

Saltpetre—
Adelaide, 1 t. £26
Oporto, 7 7 c. 176
Sydney, 1 16 53
Pernambuco, 12 2 297
Auckland, 2 18 cks. 12
Hamilton, 10 brls. 33

Sheep Dip—
Wellington, 17 c. £58
Delagoa Bay, 80 pks. 24

Silver Nitrate—
Brisbane, 1 cs. £9
Wellington, 1 8

Soap—
Antigua, 1 c.
Beira, 8
Bombay, 2 t. 4
Brisbane, 1 12
Durban, 3 3
Gibraltar, 1 2
Hamburg, 1 1
Jamaica, 10
Karachi, 6
Kilindina, 3 5
Mossel Bay, 1
Otago, 7
Paris, 14
P. Sudan, 11
St. John's, N'fld., 9
St. Kitts, 2 14
St. Petersburg, 5
Toronto, 4
Wanganui, 1
Delagoa Bay, 2
P. Sudan, 1
Alexandria, 1
Adelaide, 2
Auckland, 5
Bordeaux, 1
Calcutta, 11
C. Town, 3 11
Colombo, 2 13
E. London, 7
Fiji, 1
Ghent, 7
Harlingen, 1
H. Kong, 3
Lisbon, 2
Mombasa, 3
P. Elizabeth, 2
Rangoon, 15
Rio de Jan., 8
Rotterdam, 3 9
Singapore, 2
Suakim, 4
Sydney, 10
Toronto, 3

Soda Ash—
Perth, 5 t. 5 c. £27

Soda Salts—
Montreal, 2 cs. £12

Sodium Bicarbonate—
Wellington, 8 c. £10
Zanzibar, 4 t. 10 47

Sodium Carbonate—
Callao, 1 t. £11
Santiago, 2 19
Paris, 11 c. 31

Sodium Nitrate—
Delagoa Bay, 11 c. £6

Starch—
Lyttelton, 1 t. 5 c.
Maryborough, 1 18
Mossel Bay, 1 4
St. John's, N'fld., 4
Brisbane, 9 9
Auckland, 8
Beira, 3
C. Town, 6 14
Durban, 3 17
Otago, 1
St. John, N.B., 2 5
Sydney, 17 5
Trinidad, 11

Sulphur—
Boulogne, 10 c. £18
Jamaica, 1 t. 8
Algoa Bay, 3 19 46
C. Town, 5 48
Algoa Bay, 2 17

Sulphuric Acid—
Plata, 2 c. £2
Berbico, 5 t. 18
Trinidad, 2 10 9
Demerara, 12 19 68
Delagoa Bay, 16 18
R. Plate, 3 23
Durban, 2 cs. 2
Bombay, 5 6

Superphosphates—
Lisbon, 250 t. £579

Tallow—
Antwerp, 81 t.
Brussels, 25 1 c.
Genoa, 11 7
Odessa, 9 18
Copenhagen, 17 17
Harlingen, 8 1
Paris, 1 1
Rigi, 25 3
St. Petersb'g, 25 6

Tartaric Acid—
Dunedin, 5 c. £25
Nelson, 1 kg. 1 6
Singapore, 4 22

Turpentine—
Bombay, £427

White Lead—
Adelaide, £898
Bombay, 371
Brisbane, 552
Calcutta, 105
C. Town, 47
Hamburg, 67
H. Kong, 29
Wellington, 961
Durban, 25
Sydney, 59

LIVERPOOL

Period ending September 18.

Acetic Acid—
Durban, 11 c. £30
Maranham, 2 cs. 3

Albumen—
New York, 2 t. 2 c. £186

Alum—
Rio de Jan., 1 t. 14 c. £14
Varna, 18 5
Natal, 5 2

Aluminous Sulphate—
Calcutta, 15 c. £5

Ammonia—
Maranham, 2 cs. £4
Manaos, 1 c. 2
Oporto, 1 2
Manaos, 1 3

Ammonium Carbonate—
Rouen, 19 c. £20
Bordeaux, 1 t. 9 63
Bremen, 2 68
Nantes, 2 64
Barcelona, 2 60
Yokohama, 3 10 122
Kobe, 7 241
Genoa, 6 6 237
Venice, 1 19 71
Bilbao, 17 30
Barbadoes, 1 7
Valparaiso, 11 23
M. Video, 1 33

Ammonium Muriate—
Rouen, 6 t. 8 c. £184
Yokohama, 4 11 109
Barcelona, 3 3 12
Naples, 1 5 30
Baltimore, 16 384
Smyrna, 10 12
New York, 3 10 88
Genoa, 3 15 80
Gothenburg, 1 8 34
Cairo, 1 24
Alexandria, 10 13

Ammonium Sulphate—
New York, 106 t. £2,150
Valencia, 199 2,054
Yokohama, 101 2 c. 1,800
Kobe, 38 16 480
Maji, 93 9 1,075
Las Palmas, 94 1 1,202
Tereriffe, 23 10 282
Lisbon, 39 17 482
Tarragona, 20 355
Alicante, 20 16 243

Antimony Sulphide—
New York, 12 brls.

Barytes—
Quebec, 36 cks.

Basic Slag—
Malaga, 10 t. £15
Genoa, 400 800
Oporto, 251 4 c. 701
Bilbao, 70 95

Bleaching Powder—
Phila'phia, 104 cks.

Bog Ore—
B. Ayres, 40 cks.

Bones—
Las Palmas, 24 t. 15 c. €131
Seville, 19 16 119
Rouen, 9 2 75

Borax—
Havana, 18 c. £22
Tampico, 10 7
P. Mexico, 1 1
Sagua la G., 2 t. 30
Teneriffe, 9 7
Manaos, 2 2
Santos, 10 8
B. Ayres, 10 8
Havana, 3 8 51

Calcium Chloride—
Sydney, 10 t. 8 c. £22
Lisbon, 2 15 7
P. Aronas, 17 9 35
Melbourne, 10 7 20
Adelaide, 1 6 26
Palermo, 1 2 2
St. Petersburg, 6 10 17
Havre, 9 19 20
Durban, 5 4 104
Algoa Bay, 2 2 5

Calcium Sulphydrate—
Antwerp, 10 t. 5 c. £42

Camphor—
Lagos, 1 cs.

Carbonate of Lime—
New York, 1 t. 10 c. £29

Castor Oil—
Auckland, 50 dms.
Belize, 15 cs.

Caustic Potash—
N. Orleans, 3 t. 14 c. £74
New York, 1 1 30

Caustic Soda—
B. Ayres, 368 cks.
Galveston, 552 dms.
Melbourne, 14
Montreal, 76 brls.
Rouen, 65
San Francisco, 5
Limon, 4

Chemicals (*otherwise undescribed*)
Antwerp, 13 cks. £126
B. Ayres, 2 16
Genoa, 4 38
Calcutta, 240 t. 10 c. 155
Trieste, 20 brls. 77
Salonica, 7 40
Hamburg, 23 cks. 189
Kobe, 15 165
Smyrna, 4 brls. 30
Varna, 10 35
Rosario, 1,545 bgs. 317
Bombay, 10 cs. 12 dms. 92
Wanganui, 10 kgs. 9
Sydney, 40 34
Lyttelton, 10 10 48
Callao, 6 31
Dunedin, 20 48 pks. 46
San Francisco, 5 13
Auckland, 178 43
Valparaiso, 20 13

China Clay—
Baltimore, 1,454 cks.
Boston, 25
Portland, 1,448 cs.

Citric Acid—
S. Leone, 1 cs. £3

Coal Products—
Aniline Colour
Barcelona, 7 kgs.
Boston, 13 cks. 6
Carbolic Acid
Kingston, 20 gals. €2
Carbolic Acid (Solid)
Yokohama, 5 t. £262
Milan, 2 9 c. 146
Hamburg, 9 29
Genoa, 4 11
New York, 3 1 185
Mirbane Oil
Maranham, 8 dms.
Pitch
Bilbao, 15 brls.
Braila, 50 cks.
Galveston, 400
Tar
Galatz, 50 brls.
Manaos, 40 dms.

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Colours—
Hamburg, 1 brl.

Copper Sulphate—
Padang, 9 c. £15
Salto, 3 5
M. Video, 55 t. 3 1,249
Nantes, 15 4 430
Malaga, 14 17 367
Palermo, 7 2 183
Galatz, 10 265
Stettin, 1 4 32
B. Ayres, 2 53
Sourabaya, 7 19 222
Halifax, 2 8 68
C. Town, 2 50
Hamburg, 6 104
Pasages, 15 379
Natal, 1 25
Rangoon, 1 26
Catania, 5 2 123

Cottonseed Oil—
Bordeaux, 5 brls.
Dakar, 10
Rufiscue, 10

Disinfectants—
Calcutta, 100 dms. 4 cks. £16
Rotterdam, 67 bgs. 65
Alexandria, 3 cs. 17
Stettin, 3 cks. 16
Calabar, 2 1
P. Elizabeth, 24 300 108
C. Town, 2 t. 60
E. London, 200 29
Yokohama, 9 4 61
Natal, 50 6
Para, 3 brls. 11
Bahia, 1 cs. 1
Rangoon, 19 c. 24

Dried Blood—
Hamburg, 12 t. £6
Teneriffe, 6 52
Colombo, 15 8 c. 151

Dyestuffs (*otherwise undescribed*)—
New York, 15 cks.

Dyestuffs
Dyewood Extract
Genoa, 10 cks.
Germany, 20 1 cs.
Sydney, 20
Tanners' Extract
Braila, 114 brls. 77 cks.
Copenhagen, 51
Melbourne, 4
New York, 10 cs.
Varna, 19

Glue—
Barcelona, 10 cs.
Boston, 172 bls.
Maracaibo, 30 bgs.
Montreal, 105

Glycerine—
E. London, 1 c. 1 cs. £5
Matadi, 1 d n. 1
Bombay, 1 t. 43
Yokohama, 12 10 538
Shanghai, 15 43
Auckland, 15 41
Montreal, 9 17 431
Philadelphia, 51 12 1,624
Galatz, 2 10 45
Bilbao, 10 23
St. John, N.B., 2 92
Hamburg, 10 28
Calcutta, 2 6

Iron Oxide—
Boston, 20 kgs.

Lactic Acid—
Melbourne, 17 c. £20

Lead Ore—
Antwerp, 106 t.

Linseed Oil—
Adelaide, 4 cks. 400 dms.
Alexandria, 150 brls.
Auckland, 50
Belize, 1
Bremen, 3
Galatz, 12
Genoa, 11
Havana, 12
Manaos, 75
Manilla, 100
Maracaibo, 2
Maranham, 5
Naples, 12
Nassau, 8
Rio de Jan., 5
Sagua la Grande, 24
Tampico, 8
Trinidad, 3
Varna, 21
Yloilo, 50

Magnesia—
New York, 7 c. £24
Trieste, 2 cs. 4
Manaos, 2 2
Oporto, 2 3

Magnesia (Calcined)—
Havana, 4 c. £17
Cartagena, 1 5
Sekondi, 7 3

Magnesium Carbonate—
Marseilles, 2 cs. £23
Tampico, 1 c. 2
New York, 1 2

Magnesium Chloride—
St. Petersb'g, 13 t. 1 c. £37
Rangoon, 2 9
Bangkok, 1 dm. 1

Magnesium Citrate—
P. Madryn, 1 c. £9
Barcelona, 10 42
Curaçao, 1 cs. 1

Manganese—
New York, 42 cks.

Manganese Ore—
Hamburg, 2 cks. 15 brls.

Manure—
Rio de Jan., 3 t. 18 c. £37
New York, 10 60
Las Palmas, 3 14
Seville, 9 8 54

Mercury—
Sekondi, 3 btls.

Muriatic Acid—
Hamburg, 2 c. £1
Rangoon, 2 cs. 1

Nitric Acid—
Rangoon, 5 cs. £7
Hamburg, 2 c. 3

Phosphorus—
Barcelona, 9 t. 18 c. £29
Kobe, 2 4 30
Dunedin, 4 cs. 30

Phosphorus (Amorphous)—
Kobe, 2 t. 4 c. £140

Potassium Bichromate—
Varna, 12 c. £18

Potassium Carbonate—
Bombay, 1 t. £26
Vera Cruz, 1 cs. 4

Potassium Chlorate—
Sydney, 10 t. £800

Potassium Cyanide—
Tultenango, 10 c. £930

Potassium Prussiate—
Oporto, 3 c. £7

Quinine—
Maranham, 2 cs. £9

Red Lead—
Boston, 20 cks.
Bremen, 4
Manaos, 50 kgs.
Piræus, 2
Yloilo, 50

Rubber—
La Guayra, 1 brl.

Salammoniac—
Antwerp, 10 c. £21
Barcelona, 3 t. 1 96
Naples, 1 60
Oporto, 5 10
Kobe, 2 80
Rosario, 9 20
Karachi, 2 8 96
Trieste, 2 10 100
Calcutta, 2 8 96
Bombay, 2 5 96
Mersyne, 6 13
Vera Cruz, 5 12
Salonica, 1 1 42

Salt—
Antwerp, 573 t.
Auckland, 100
Baltimore, 150
Boston, 100
B. Ayres, 680 cs.
Calabar, 199 4 c.
Calcutta, 868
C. Palmas, 4 9
C. Town, 29 9
Christiania, 500
Colombo, 5
Duala, 146
Halifax, 100
Landana, 25

Salt—
M. Video, 50 t. 50 cs.
Monrovia, 6 5 c.
Montreal, 295 6
Mossel Bay, 25
N. Orleans, 425
New York, 50
Para, 291 19
Rio del Rey, 6 14
Rotterdam, 297
St. John, 447 9
Sherbro, 49 2
S. Leone, 150
Sydney, 100
Trinidad, 10
Warri, 100

Saltcake—
Leghorn, 200 t. £597
H. Kong, 1 19 c. 2
B. Ayres, 2 17 3
Brisbane, 2 7

Saltpetre—
Ceara, 10 c. £13
Demerara, 4 6
Maranham, 2 t. 9 65
Natal, 1 10 41
Kingston, 1 1

Sheep Dip—
Natal, 6 t. 7 c. £145
Callao, 20 dms. 20
C. Colony, 600 2 cs. 92
Fiume, 1 t. 7 57
C. Town, 3 17 112
Argentine, 60 dms. 30
E. London, 5 10
Natal, 30 71
B. Ayres, 11 t. 10 334
B. Blanca, 7 10 225
Santa Cruz, 3 10 140
Gallegos, 2 10 110
Beira, 2 2

Soap—
Accra, 360 bxs.
Antwerp, 51
Appam, 45
Beira, 56
Bombay, 1,220
Cochin, 2 cs. 40
Delagoa Bay, 329
Delhi, 320
Durban, 465 710
E. London, 190
Gibraltar, 230
Gd. Bassam, 60
Gd. Canary, 224
Halifax, 100 kgs.
Hamburg, 100
Havana, 1
Larnaca, 29
Madras, 245
Manta, 100
Maranham, 53
Matadi, 135
M. Video, 1
Nincosie, 22
New York, 1
Opobo, 2,440
Piræus, 10
P. Elizabeth, 911
Sekondi, 125
Valparaiso, 6 439
Karachi, 1,670
Calabar, 12

Soap Powder—
Wellington, 110 cs.

Soda Ash—
Boston, 40 cks.
B. Ayres, 368

Sodium Cyanide—
Galveston, 20 t. £1,855

Sodium Prussiate—
New York, 66 cks.
Stettin, 2

Sodium Silicate—
Barcelona, 135 brls.
Genoa, 64
Montreal, 50
Quebec, 1 ck.
Salonica, 56
San Sebastian, 32
Shanghai, 20

Sulphur—
Montreal, 50 t. 2 c. £616
E. London, 10 11
Para, 6 2
Gothenburg, 140 637

Sulphuric Acid—
Pernambuco, 11 cs. £4
Antofagasta, 12 c. 12
Hamburg, 1 t 5 8
Rangoon, 1 1

Superphosphates—
Seville, 1,416 t. 10 c. £2,580
Bonenza, 198 500
Portpirie, 1,952 4 5,448
Alicante, 49 10 119
Malaga, 43 8 102
Vigo, 9 18 22
Las Palmas, 25 83
Teneriffe, 21 4 70
Durban, 98 7 261
Almeria, 69 15 119
Lisbon, 148 10 612
Oporto, 128 15 319
Corunna, 9 19 20
Valencia, 99 240

Tallow—
Alexandria, 20 trcs. 25 brls.
Galatz, 35 cks.
Gd. Lahou, 2
Loanda, 4
Sagua la Grande, 3

Turpentine—
Manilla, 75 dms.
Opobo, 100

Ultramarine—
Hamburg, 15 cks.
Moji, 6 brls.

Venetian Red—
Bangkok, 100 kgs.

Zinc Ashes—
Rotterdam, 15 t. 7 c. £93

Zinc Chloride—
Bombay, 4 t. 18 c. £86

Zinc Muriate—
Bombay, 10 t. 12 c. £138
H. Kong, 2 13 35
Rio de Jan., 5 6
Stettin, 6 3

Zinc White—
Auckland, 20 cks.
Bremen, 20 kgs.

MANCHESTER.

Week ending September 18.

Alumina Sulphate—
Rouen, 2 cks.

Ammonium Carbonate—
Antwerp, 10 kgs.

Ammonium Muriate—
Montreal, 5 cks.

Ammonium Sulphate—
Hamburg, 500 bgs.

Bleaching Powder—
Philadelphia, 42 cks.

Bones—
Rouen, 391 bgs.

Calcium Sulphate—
Antwerp, 100 brls.

Chemicals (*otherwise undescribed*)
Bombay, 14 brls.

China Clay—
Phila'phia, 1,444 cks.

Coal Products—
Aniline Oil
Philadelphia, 98 dms.
Aniline Salt
Philadelphia, 20 cks.
Smyrna, 20 pns.
Carbolic Acid
Rouen, 2 cs. 47 btls.
Naphthylamine
Germany, 28 cks.
Pyridine Base
Hamburg, 10 dms.

Glue—
Antwerp, 6 cks.

Mineral White—
Antwerp, 42 cks.

Nitrous Oxide—
Germany, 1 cyld.

Salt—
Montreal, 600 t.
Rotterdam, 180

Soap—
Cairo, 1 cs.

Sodium Prussiate—
Philadelphia, 6 t. 13 c.

Sodium Sulphate (Glauber Salt)—
Gothenburg, 50 bgs.

Zinc Ashes—
Rotterdam, 93 bgs.

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HULL.

Week ending September 14.

Ammonium Sulphate—
Italy, 1,562 bgs.
Marseilles, 199
Rouen, 76
Stettin, 1,473

Antimony—
New York, 225 cks.

Chemicals (*otherwise undescribed*)
Bombay, 20 kgs. 160 dms.
Amsterdam, 45 cks.
Antwerp, 1 hhd.
Alexandria, 28
B. Ayres, 100 cs. 30
Christiania { 17 / 4 / 100 bgs. / 10 kgs.
Drontheim, 10
Genoa, 1 13 cs.
Gothenburg { 100 bgs. / 5 cs.
Hamburg, 82 2
Helsingfors, 2 12
Libau { 4 pks. / 40 dms.
New York, 340 25
Rouen, 10
Riga, 20
Rotterdam { 25 1 / 125 kgs.
Stockholm, 39
Stettin, 14
Uleaborg, 28 brls.

Coal Products—
Pitch
Uleaborg, 128 bgs.
Tar
Copenhagen, 5 cs.
Christiania, 10 cks.
Hamburg, 45

Cottonseed Oil—
Amsterdam, 17 t. 8 c.
Hamburg, 29 14
Rotterdam, 9 7
Stettin, 3 11

Dyestuffs (*otherwise undescribed*)—
New York, 6 cks.

Glue—
Gothenburg, 40 bgs.
New York, 100
M. Video, 1 cs.
Rouen, 2 bgs.

Linseed Oil—
Antwerp, 7 t. 18 c.
Bombay, 7 19
Bergen, 18
Christiansund, 2 3
Copenhagen, 4
Christiania, 1 13
Karachi, 1 12
Rotterdam, 3
Hamburg, 6 4

Manure—
Antwerp, 126 bgs.
Christiania, 136
Dunkirk, 175 t.
Hamburg, 1,750 bgs.
Leghorn, 90 t.
Naples, 2,660
Riga, 3,540

Phosphate—
Uleaborg, 2,030 bgs.

Phosphate Powder—
Christiania, 199 t. 6 c.
Demerara, 444
Gothenburg, 2,030 bxs.

Rosin—
M. Video, 2 cks.

Starch—
St. Petersburg, 4 bgs.

Tallow—
Copenhagen, 30 cks.
Drontheim, 50 t.
Harlingen, 17 fkns.
Rotterdam, 28 bgs.
Wasa, 54 cks.

Turpentine—
B. Ayres, 51 cs.
Bremen, 1 brl.
Copenhagen, 15 cks.
Hamburg, 26
Karachi, 7 dms.
Rotterdam, 1

Wax—
Copenhagen, 25 cks.
Libau, 35 bgs.

GLASGOW.

Week ending September 19.

Ammonium Carbonate—
Lyttelton, 1 t. 6 c. 3 q.

Ammonium Sulphate—
Hamburg, 55 t. 13 c. 2 q.
Canada, 10 3 3
Hiogo, 409 14
Kobe, 153 10 3
Yokohama, 306 6 1
Portugal, 76 7 1
Norfolk, 239 17 3
Nantes, 15
U.S.A., 102 1
Rotterdam, 243 2

Basic Slag—
Durban, 99 t. 17 c. 1 q.

Borax—
Amsterdam, 10 c.
Rotterdam, 1 t. 5

Boracic Acid—
Rotterdam, 4 c.

Caustic Soda—
Philippines, 3 t. 15 c.
Belgium, 5 2

Chemicals (*otherwise undescribed*)
Venice, 1 t. 9 c. 1 q.
Auckland, 1
Delagoa Bay, 3
Yokohama, 2 10

Coal Products—
Aniline Dye
Canada, 2 c.
Benzol
Rotterdam, 24 t. 10 c.
Carbolic Acid
Rotterdam, 31 t. 3 c.
Creosote Oil
Russia, 268 t. 7 c.
Christiania, 4 6
Hamburg, 8 9
Pitch
Malta, 29 t. 3 q.
Akyab, 2 14 c.
Constanti'ple. 26 1 3
Kobe, 5 17 2
Russia, 85 4 2
Turkey, 55 9
Canada, 76 8
Tar
Hamburg, 2 t. 9 c. 1 q.
Akyab, 27 2 2
Russia, 27 19
Calcutta, 97 17

Colours—
Boston, 5 c.

Copperas—
Lyttelton, 47 t. 8 c.

Dyestuffs (*otherwise undescribed*)—
Fiume, 82 t. 5 c. 3 q.
Sweden, 28 14
Canada, 32 9 3
Portugal, 15 14 2
Singapore, 26 10
Calcutta, 5

Dyestuffs—
Extracts (*otherwise undescribed*)
Christiania, 3 t. 2 c. 2 q. 16 lb.

Ferro Silicon—
Canada, 50 t.

Fish Oil—
Belgium, 49 t. 18 c. 1 q.
Nantes, 12 4
Trieste, 180 15 1
Hamburg, 21 14 26 lb.
Fiume, 27 14 3
Rouen, 16 13 1
Rotterdam, 10 3

Glue—
Dunedin, 12 c. 2 q.

Guano—
Hamburg, 22 t. 19 c. 1 q. 24 lb.

Iodine—
Rotterdam, 2 c.

Linseed Oil—
Trieste, 3 t. 1 c. 1 q.
Auckland, 1 2 2
Constanti'ple, 10 9 1
Napier, 4
Rangoon, 2 13 3
Fremantle, 500 gals.
Japan, 132¼

Litharge—
Johannesburg, 5 t. 6 c.

Magnesium Sulphate—
Paris, 5 t. 9 c.

Oxalic Acid—
Canada, 2 t. 11 c. 2 q.

Olive Oil—
Dunedin, 1 t. 12 c. 3 q.

Paraffin Wax—
Ancona, 1 t. 19 c. 3 q.
Bordeaux, 2 15 3
Belgium, 6 15 1
Trieste, 3 9 2
Malta, 10 3
Venice, 25 13 2
Paris, 20 11
Odessa, 5
Rouen, 5 8 1
Russia, 5 19 1
Christiania, 2 10 3 5 lb.
U.S.A., 15

Paraffin (Solid)—
Odessa, 4 t. 18 c. 1 q.

Potassium Bichromate—
Lyttelton, 3 t. 4 c. 1 q.
Oamaru, 1 4
Antwerp, 1 4 1
Montreal, 4 1
Yokohama, 2 8
Rotterdam, 25 14

Potassium Cyanide—
Fremantle, 43 t. 5 c. 2 q.

Red Lead—
Calcutta, 4 t.

Sheep Dip—
Picton, 3 t. 15 c. 2 q.

Soap—
Algoa Bay, 4 t. 6 c. 2 q.

Soda—
Rotterdam, 1 c.

Sodium Bichromate—
Canada, 6 t. 1 c.
Montreal, 3 2 1 q.
Rotterdam, 36 17

Sodium Carbonate—
Delagoa Bay, 3 t.

Sodium Cyanide—
Chihuahua, 15 t.
Fremantle, 6 1 c.
Johannesb'g, 30
Pachuca, 30

Starch—
C. Town, 2 t. 16 c.
Vancouver, 1 15 1 q.

Superphospates—
Lisbon, 611 t. 16 c. 3 q.

Tallow—
Fiume, 24 t. 15 c.

Tartar—
Dunedin, 5 c. 3 q.

Turpentine—
Amsterdam, 3 c. 3 q.

White Lead—
Constanti'ple, 1 t. 9 c. 1 q.
Dunedin, 13
Lyttelton, 2
Napier, 1 10 3
Huelva, 1 2
Natal, 7 14

Zinc Ashes—
Rotterdam, 10 t.

TYNE.

Week ending September 14.

Antimony—
Montreal, 4 t. 5 c. 2 q.

Antimony (Regulus)—
Hamburg, 5 t. 6 c. 3 q. 14 lb.
Rotterdam, 11 9 13

Barium Carbonate—
Hamburg, 10 t.
St. Petersb'g, 25 10 c.
San Francisco, 1

Bleaching Powder—
Gothenburg, 8 t.
Rotterdam, 10 1 c. 18 lb.
Copenhagen, 19 7 1 q.
Amsterdam, 10 3 3 6
St. Petersb'g, 5 10 3 21

Caustic Soda—
Gothenburg, 4 t. 18 c. 2 q. 18 lb.
Copenhagen, 5 16
Genoa, 96 4 2 8
Naples, 15 19 22

Chemicals (*otherwise undescribed*)
Montreal, 60 t. 3 c. 3 q. 16 lb.

Infusorial Earth—
Copenhagen, 2 t.

Litharge—
Amsterdam, 1 t. 1 c. 3 q. 18 lb.
Montreal, 10 8 8

Magnesia—
Copenhagen, 14 c. 3 q. 3 lb.

Magnesia (Calcined)—
St. Petersburg, 4 c.

Manure—
Odense, 5 t.
Leghorn, 96 5 c. 2 q.
Genoa, 35 8
Naples, 40

Mineral Wax—
Bergen, a qty.
Trondhjem, ,,

Red Lead—
Odessa, 2 t. 1 c. 2 q. 27 lb.
Hamburg, 10 3 1 4
Copenhagen, 1 7 2 16
Genoa, 2 16 3 23
Montreal, 1 11 3 14

Soap—
Hamburg, 4 t. 11 c. 2 q. 16 lb.

Soda Ash—
Amsterdam, 5 t. 7 c. 2 q. 14 lb.

Soda Crystals—
Rotterdam, 10 t. 3 q. 26 lb.
Amsterdam, 6 3 c. 2

Sodium Silicate—
Amsterdam, 2 t. 16 c. 3 q. 8 lb.

Sodium Sulphate—
Antwerp, 75 t.

Sodium Sulphide—
St. Petersb'g, 20 t. 17 c. 27 lb.
Genoa, 4 4 1 q. 27

Sulphur—
Gothenburg, 80 t.
Copenhagen, 14

Tallow—
Genoa, 12 t. 8 c. 15 lb.
Rotterdam, 5 12 2 q. 10

White Lead—
Antwerp, 1 t. 2 c. 5 lb.
Rotterdam, 1 8 3 q. 17
Copenhagen, 3 12 20
Montreal, 53 15 2 21

Zinc Ore—
Antwerp, 87 t. 8 c.

GOOLE.

Week ending September 14.

Ammonium Sulphate—
Emmerick, 182 t.

Chemicals (*otherwise undescribed*)
Antwerp, 36 cks. 7 cs.
Boulogne, 3
Copenhagen, 10
Rotterdam, 3 bgs.

Coal Products (*otherwise undes.*)—
Amsterdam, 140 cks. 6 brls.
Delfzyl, 314

Colours—
Amsterdam, 34 cks.
Boulogne, 60 16 cs.
Ghent, 1
Rotterdam, 10

Dyestuffs (*otherwise undescribed*)—
Antwerp 2 cs.
Boulogne 6 cks. 53 pks.
Rotterdam, 1 2

GRIMSBY.

Week ending September 12.

Bone Ash—
Rotterdam, 1 bg.

Chalk—
Hamburg, 20 cks.
Rotterdam, 4

Chemicals (*otherwise undescribed*)
Antwerp, 4 kgs.
Dieppe, 2 pks.
Hamburg, 30 cks.
Rotterdam, 4 cs.

Coal Products (*otherwise undes.*)—
Dieppe, 186 brls.

Colours—
Hamburg, 4 pks.

Dyestuffs (*otherwise undescribed*)—
Rotterdam, 4 kgs.

Manure—
Hamburg, 134 bgs.

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PRICES CURRENT.

FRIDAY, September 27, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. *at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.*

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		40/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10⅛
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett ,,	31	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey). London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	,,	0	0	4½
Antimony	per ton	45	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9⅛
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¼
,, 50/90	,,	0	0	9
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅛
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2½
,, (filtered for Lucigen light)	,,	0	0	3
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	5	6
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	66	5	0
,, Sulphate	,,	22	15	0
,, Oxide (copper scales)	,,	58	0	0
Glycerine (crude), 80%	,,	31	0	0
,, (distilled S.G. 1260°)	,,	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	23	0	0
,, Litharge Flake (ex ship)	,,	24	0	0
,, Acetate (white)	,,	32	0	0
,, ,, (brown)	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	10	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	27	0	0
Linseed	,,	25	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3¼
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8¾
,, Hydrate (Caustic Potash), 90%	per ton	26	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5⅞
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	7⅛
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,,	16	15	0
,, Arseniate, 45%	,, ,,	24	0	0
,, Borate (Borax), Crystals	,, ,,	16	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	10	10	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	9	15	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	8	15	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	10	0
,, 77/78% powdered (99% hydrate)	per ton	12	7	6
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3⅜
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	34	0	0
Tin Crystals	per lb.	0	0	11½
,, English Ingots	per ton	169	0	0
Zinc (Spelter)	,,	21	0	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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CURRENT TOPICS.

TRUSTS IN THE UNITED STATES.

THE decided attitude of the United States Government towards the great American "trusts" is arousing increased interest in the problem of large combinations and their relation to industrial development, while the enormous fines inflicted on the Standard Oil Company and its subsidiary concerns have shown that the crusade against the abuse of the "trust" system is to be pressed to a definite issue.

It is, of course, inevitable that many side issues have been raised which are of no interest to English commercial men, but the development of the American Government campaign against the huge "combines" in the various branches of trade will be followed with very great general interest by English manufacturers. We in this country are not unfamiliar with the amalgamation of businesses in the form of a combination or "trust," but it is needless to add that the operations of such bodies are in no way comparable with the autocratic domination of any particular trade such as exists in the United States.

The recent declaration of President Roosevelt, defining his attitude towards the trusts, is of special interest, even to English observers. He says:—"At intervals during the past few months, appeals have been made to me not to enforce the law against certain wrongdoers of great wealth, because to do so would interfere with the business prosperity of the country, under the effects of that kind of fright which, when it is sufficiently acute, we call panic. This appeal has been made to me even by men who ordinarily behave as decent citizens. One newspaper, which itself strongly advanced this view, gave prominence to a statement by a certain man of great wealth, to the effect that the so-called financial weakness was entirely due to the admitted intention of the President to punish large moneyed interests which had transgressed the law. I do not admit that this has been the main cause of any business troubles which we have had, but it is possible that it may have been a contributory cause. If so, so far as I am concerned, it must be accepted as a disagreeable but unavoidable feature in the course of the policy which, so long as I am President, will not be changed. It would not merely be wrong but infamous to fail to do all that can be done to secure the punishment of those wrongdoers whose deeds are peculiarly reprehensible because they are not committed under the stress of want. If a man does well he has nothing to fear from this Administration; but the corrupt politician, great or small, and the private citizen who transgresses the law, be he rich or poor, shall be brought before the impartial justice of the courts."

The methods of at least one of the great American trusts have been set forth at length in these columns in past years, and our readers will be quite familiar, from the

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profuse reports to be found in the daily press, with the operations of the myriad of syndicates which, so we are told, exist in every industry in the States. The immediate bearing of the present campaign by the American Government is fairly evident, but the whole question of the concentration of capital is a still more interesting problem to the manufacturer, and the development of the situation in the States will be followed with the keenest attention, as, directly or indirectly, its effect on international competition, in chemicals as in other branches of commerce, is inevitable.

THE COPPER SITUATION.

The steady decline in the price of copper has given rise to various theories as to the real position of the market, and the comments in the trade Press, and also in various daily newspapers, are worthy of note. The *Electrical Review* observes that the reduction, after a long delay, of the price of electrolytic copper was a concession on the part of the producers, leading to the conclusion that they saw no prospect of longer maintaining the high prices. "On the other hand," continues our contemporary, "we hear constantly that the consumer is short, and that the rate of consumption has not diminished. One of the principal market circulars announces that the large producers in America and Europe have been holding stocks, and have accumulated a considerable quantity, being followed in this respect by the Japanese. The position of the opening months of the year appears, therefore, to be practically reversed. Whereas, until recently, the consumer was being forced to buy at rates enhanced by the activity of speculation, he now finds himself with a declining market apparently backed by stocks which have been allowed to accumulate."

The *Financial Times* observes that the recent decline, while it has apparently induced some of the smaller purchasers to reconsider their position, has not, however, so far caused the large consumers to abandon their previous attitude. The *Boston News Bureau* states that there are no negotiations in progress between the large producers and the large consumers. The big producers are not standing together by agreement, and neither are the large consumers. The *Electrical Review* concludes, therefore, that it is easy to understand the reluctance of the unsupported consumer to disturb a market which may, and often does, on very slight excuse, jump in either direction, with the chance of being held at a high price by the action of a few influential producers. Whichever side manages to effect a fresh combination the earlier will have command of the situation. Recent indications would point to the fact that the producer has the better facilities for, at any rate, temporary co-operation than the consumer. The policy of the latter is evidently, if anything like agreement is possible, to continue buying in small quantities during the period of depressed prices, and retiring from the market at once as soon as it shows an upward tendency. Continued retention of orders, followed by sudden activity when the price is supposed to have touched bottom, will naturally be followed by a sharp rise which may once more be artificially sustained.

The *Financier and Bullionist*, in a note on the situation, observes that according to the New York papers a syndicate has been formed, largely composed of copper consumers, for the purpose of taking over the major part of the accumulation that has been congesting the market. It is reported (presumably in the American papers) that consumers themselves do not favour an excessive fall in the price of copper at present, as the result might be a serious reaction on their own lines of industry.

The New York *Financial Chronicle* points out that in spite of continued reductions in price it cannot be said that buying has ensued. "The truth is that there appears to be, for the time, absolutely no demand for copper at any price. In these circumstances, the producing interests are curtailing production, and express a determination to suspend copper mining altogether if the present curtailment does not suffice to bring about an improvement in the situation." There have been rumours of the formation of a consumers' syndicate (evidently that referred to above) to buy up surplus stocks of copper; but, with the disastrous experience which attended the attempt of the Amalgamated Copper Company to maintain prices a few years ago, and the earlier failure of the Secretan Syndicate to "corner" copper, it seems unlikely that any responsible parties will attempt to repeat the experiment.

The *Ironmonger* observes that notwithstanding the cut to £70. made last week by the Amalgamated Copper Company, the business secured by the group is very poor. This (continues the *Ironmonger*) is not at all surprising, because the immediate cause of slackness in copper is not directly connected with prices; and, this being the case, no matter how drastic the reduction, consumers in the bulk will not come in. The position of the Manufacturing Copper Works reflects the great falling off in the demand for manufactured metal. Not so long ago these works were running day and night. Now they cannot be kept going right through the week, but are adopting a five-days' run. Copper wire for electrical purposes, which is of such immense importance so far as the maintenance of the market is concerned, is almost entirely neglected. It is suggested that this continual cutting down of prices is probably a bad policy; it will not help to stimulate buying, but will add greatly to the financial troubles of the holders of metal. If the price could be steadied for three months possibly the worst of the trouble would be over, and the trade would begin to return to normal conditions.

NITRATE OF SODA.

THE official returns of September shipments are not available at the time of writing, but private advices give the total to Europe as 83,000 tons, with 150,000 tons "loading," a somewhat wide discrepancy with the mid-monthly estimates at 75,300 and 103,000 tons respectively. Ships for season's dispatch are arriving in large numbers on the West Coast, while the change in the wind is bringing some cargoes into ports of call. Last month's European deliveries were only 58,920 tons, against 63,560 tons in September, 1906, making 1,090,010 tons in the nine months, against 1,090,240 tons in the corresponding period. Stocks at ports are 132,900 tons, compared with 87,510 tons a year ago, Hamburg, Antwerp and Dunkirk being all congested, while Rotterdam has passed its recent heavy imports up the Rhine. Liverpool has added another large cargo to its heavy stocks, yet the price there has been nominally raised 3d. per cwt. A feeble attempt made last week in Hamburg to follow suit was quickly abandoned, and business in all directions is extremely slow. Importers, having paid high prices, will naturally do their utmost to support the market, the course of which during the next few months will depend on the measure of success in the artificial restriction of shipments from Chili. In the meantime, consumers of nitrate of soda are content to await developments, and forward commitments have never been on so small a scale.

Potash Salts.—Some mystery seems to surround the potash position in Germany. On the one hand, as mentioned in our last week's issue, deliveries are reported to have recently been on an abnormally large scale; on the other hand, the syndicate has considered it necessary to issue a circular requesting the members to hasten the execution of contracts.

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THE ENGINEERING AND MACHINERY EXHIBITION AT OLYMPIA.

THE second Engineering Exhibition at Olympia contains many exhibits which, although not of direct interest to the chemical trade, will still amply repay a visit of inspection. We hope to give a fairly complete description of some of the appliances of special interest to our readers in subsequent issues, but meantime we may mention a few interesting pieces of plant and apparatus.

The Pulsometer Engineering Co., Ltd., of Reading and London, have one of the most striking stands in the Exhibition—perhaps the most striking for its size. They show one of their No. 12 patent Pulsometer steam pumps which, although only 10 ft. 6 in. high, is capable of throwing the enormous quantity of 150,000 gallons per hour. In order to emphasise the great range of pumps made by the company two No. 1 Pulsometer pumps are arranged in close proximity to the No. 12. These little pumps, which are only 17 in. high, have an output of 1,000 gallons per hour. Every size of pump, from the largest to the smallest, will work suspended on a chain, and, requiring no fixing, can be put to work in the minimum of time. The Pulsometer Engineering Company have increased the height to which these pumps will deliver, and are now selling them to work on 150 feet vertical in single lifts. As two or more pumps can be placed in series, the range of lift reached by the "Pulsometer" is now very great.

Messrs. W. H. Bailey and Co., Ltd., of Salford, Manchester, exhibit a large variety of their specialities, consisting of air compressors, steam pumping engines for boiler feeding and general purposes, and boiler mountings and engine fittings of almost every description.

The "Köster" patent air compressor, of which two or three types are shown, is a machine which gives the highest volumetric and mechanical efficiencies. It has a mechanically operated piston valve for admitting air to the cylinders, and only one outlet valve, the action of which is controlled by the piston valve, so that it is allowed to open wide, and to seat itself noiselessly. Opening wide, it can be made small in diameter, leaving the whole of the cover of the cylinder and a great part of the cylinder jacket available for cooling. The wide opening of the valves enables the compressor to be run at high speeds, making it particularly suitable for being driven by the most economical type of steam or gas engine, or by electro motor. These compressors are made on the single and the multiple-stage combined inter-cooling systems. All parts are well proportioned, and wear and tear and the costs of upkeep are reduced to a minimum.

Another of Messrs. Bailey's exhibits to which attention may be called is the "Davidson" direct-acting steam pump. The feature of this pump is the range of speeds at which it can be driven, *viz.*, from 1 or 2 strokes to 200 or 300 strokes per minute. It is made with either pistons or rams for high-pressure boiler feeding, for working hydraulic presses, and for very high lifts in mines, and can be fitted with simple, compound, or triple-expansion steam cylinders.

The "Key-Ring" renewable valve seat, which is fitted in stop valves for high-pressure superheated steam, is also of interest. This valve seat allows for differences of expansion between the seat and the body, and can be easily removed and replaced. The principle of the "Key-Ring" is the adoption of a flexible metallic connection between the seat and the body, similar in construction to the well-known Ramsbottom piston ring. The seat of the ordinary type is screwed into a spring ring, which is sprung into a groove in the valve body. The seat can be removed and replaced with ease, it will expand freely in all directions, and will remain tight under all pressures and temperatures.

As showing the large range of goods made by this firm we may call attention to the Thurston patent recording oil-tester, and Bailey's patent hydraulic installation recorder. The former machine is designed for users of large quantities of oil, to enable tests to be made to demonstrate the most suitable oil for certain work. Many conditions have to be carefully taken into consideration in selecting oil for different kinds of work, and by the aid of this machine the necessary qualities can be found. The apparatus records on a diagram the behaviour of the oil during the test. The other exhibit referred to—the hydraulic installation recorder—is an instrument specially designed for use in connection with hydraulic power stations. It can be connected to any number of pumping engines, and records on a diagram the duties of these engines by giving a puncture for every 100 revolutions, and from this diagram the quantity of water delivered can be calculated. The recorder shown has been specially made for the new hydraulic power station at Falcon's Wharf, London.

Of valves for controlling steam, air or water, many interesting types are exhibited by Messrs. Bailey and Co. The "Foster" reducing valve is a spring-controlled valve which will open from any degree to full bore, according to the demand made upon it. This is accomplished by means of its differential spring arrangement, which maintains a constant pressure on the governing diaphragm, irrespective of the degree of compression of the spring. A passing reference may be made to the innumerable patterns of lubricators, steam gauges, water gauges for boilers, and other fittings shown by this well-known firm.

CEYLON TRADE IN 1906.

The total imports into Ceylon during 1906 were valued at Rs.112,789,269, as against Rs.108,325,000 in 1905; and the exports were valued at Rs.109,700,000 as against Rs.102,175,000 the previous year. Of the imports during 1906, the value from the United Kingdom was Rs.29,600,000; from British Colonies Rs.70,050,000, and from foreign countries Rs.12,525,000, whilst the exports to the United Kingdom were Rs.53,450,000, to the British Colonies Rs.20,525,000, and to foreign countries Rs.35,725,000. Among the imports were:—Chemical, dyeing and tanning materials valued at Rs.92,845. Raw manures, bone, fish, guano and others valued Rs.756,163. Sulphuric and other acids, Rs.27,059. Fuller's earth, Rs.46,626. Sulphate of Ammonia, Rs.68,852. Nitrate of potash, Rs.83,936. Sulphate of potash, Rs.127,568. Muriate of potash, Rs.25,860. Kainit, Rs.9,570. Basic, slag Rs.58,475. Superphosphate, Rs.52,765. Blood meal, Rs.84,639. Colours and paints, Rs.173,253. Perfumery, Rs.141,970. Soap, Rs.423,670.

Of the fertilisers imported, the United Kingdom and the colonies supplied Rs.2,075,000, and foreign countries (principally Germany and Belgium) Rs.709,000. The match trade has been in the hands of Germany, Japan, Austria, and Sweden to the value of Rs.207,180. Of perfumery and soap, Germany supplied Rs.51,168 and Rs.25,445 respectively, and France Rs.12,978 and Rs.1,237. Foreign nations are imitating the well-known brands of English makers, in the name, get-up of package, colour of label, etc. As regards exports from Ceylon, plumbago represented 701,845 cwts., valued at Rs.10,457,490. America, the United Kingdom, Germany, and Belgium being the principal buyers. Cocoanut oil represented 539,002 cwts., valued at Rs.9,545,725, and Citronella oil, 1,213,746 lbs., value Rs.1,204,764.

Note.—In Ceylon, 100 cents equal a rupee, which equals 1s. 4d.

THE REVENUE RETURNS.—The revenue returns for the past half-year show an increase of £883,490., as compared with the corresponding period of last year. A decrease was estimated in property and income tax of over a million sterling during the year, but so far there is an increase of £463,000. The second quarter of the financial year shows a net increase of £213,551.

BUSINESS CHANGES.—We are informed that the old-established firm of Hugh Wallace and Co., Ltd., have gone into voluntary liquidation and will shortly cease business. Under these circumstances, Mr. William T. Bruce, who has been with the firm for some 33 years, has decided to commence business on his own account, trading as W. T. Bruce and Co., 1, Lombard Court, E.C.

THE NEW AMMONIA-SODA WORKS AT PLUMBLEY.—An announcement was made some time ago respecting the discovery of a new salt-producing area at Plumbley, near Northwich, on land owned by Mr. J. H. Davies, of Manchester. Extensive examination and boring have proved that the brine supply is abundant, and we understand that the land has been sold to the Ammonia-Soda Company, with which firm are associated Mr. Arthur Chamberlain, Mr. A. Chamberlain, Jr., Mr. Ivan Levinstein, Mr. J. S. Nettlefold, Mr. A. T. Cocking, and others. The Ammonia-Soda Company are now proceeding with the erection of a large chemical works at Plumbley, and it is stated that the boring operations have proved even more successful than was anticipated. A large brine shaft has already been completed, and it is further stated that the works are expected to commence production in about twelve months from the present time.

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COALITE.

THE claims of the specification covering the "Coalite" process are now published in the United States *Patent Journal*, and are as follows:—865,724. Fuel. Thomas Parker, London, England. Filed January 26, 1907. Serial No. 354,319. (1) The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a comparatively low gas evolving temperature, maintaining it at this temperature while illuminating gas continues to be evolved, and cooling when illuminating gas ceases to be evolved and when the mass is substantially free of tarry components, so that the product shall be hard, of uniform character, homogeneous, and capable of withstanding stacking, handling, and carriage without further treatment.

(2) The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a temperature of about 800° F., maintaining it at about this temperature while illuminating gas continues to be evolved, and then cooling and removing the fuel from the retort.

(3) The herein described process for the production of fuel from coal which consists in subjecting it in a closed retort under moderate pressure to a temperature of about 800° F., maintaining it at this temperature while illuminating gas continues to be evolved, and cooling and withdrawing the fuel when illuminating gas ceases to be evolved.

(4) The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a temperature of about 800° F., maintaining it at about this temperature while illuminating gas continues to be evolved, and then suddenly arresting the heat by introduction of steam and removing the fuel from the retort.

Commenting on the flotation of British Coalite, Ltd., the *Investors' Guardian* observes that the flotation has been the subject of much discussion and comment in financial circles and of no little criticism in the Press. In these circumstances the address of the chairman of the company, Mr. A. G. Kitching, at the statutory meeting, is worthy of some consideration. Our financial contemporary says:—"The affairs of the company have been criticised on a number of different points, but Mr. Kitching had some reply to make to all the objections that had been raised on important matters. He pointed out in the first place that the directors were financially interested in the business like the shareholders, and that they believed it would be a commercial success. That it is an investment of a speculative character Mr. Kitching did not deny. The conditions of purchase from the inventor, Mr. Parker, he regards as honourable, fair, and reasonable, and he pointed out that Mr. Parker does not receive a farthing until the ordinary shareholders have received 6%. The contract with William Cory and Son, Ltd., was also defended as one of mutual advantage to both companies, and it was spoken of as a valuable asset to British Coalite, Ltd.

"'The company offered for subscription a million and a half ordinary shares of £1., and 750,000 ordinary shares were underwritten. The amount subscribed was £750,182. The underwriters had to take up some of the shares, and have already paid a very large sum in respect of those shares. There are about 3,500 shareholders on the list, and considering the condition of the money market when the prospectus was issued, and the strong attack made upon them by a 'large and influential interest' who feared the competition of British Coalite, Ltd., the chairman declared that it was a marvel to him that the shares were taken up to such an extent as they were. As only half the capital offered was subscribed the company cannot make the profits which were anticipated on a capital of £1,500,000.

"On the much discussed question of the patents Mr. Kitching was able to make a reassuring statement. The Official English Patent Office Examiner has not found a single patent that anticipated the invention, and the application for the English patent has been taken through every stage up to its publication, but acting under the advice of eminent counsel, the board has deferred the publication of the patent to the date allowed by the Patent Office. The most exhaustive searches have been made, and the board's advisers are able to give an absolute assurance that the English patent will be granted as a matter of course, 'no matter what opposition may be raised by interested parties against the grant.' As to the contention that the patent will be invalid and ineffective, all Mr. Kitching could do was to quote the opinion of experts and counsel to the contrary and to express his own opinion, for it is a matter which the future must prove. What Mr. Kitching could and did tell the shareholders was that in the United States, where the conditions are much more stringent than with us, the full patent had been granted and sealed, and that in Germany the patent had been allowed—that is not an absolutely full patent, the position in Germany being much the same as it is here.

"A considerable number of the stills in which coalite is manufactured are to be delivered at Barking almost immediately, and it is anticipated that the first unit will be ready for work by the end of November. As to the purchase price of the land at Barking, which has given rise to much comment, Mr. Kitching said the land was valued by Messrs. Fuller, Horsey, Sons and Cassell, and their estimate was that it was worth more than the company gave for it. The purchase price of the land at Wednesfield has also been the subject of criticism, because of the profit made by the Wednesfield Construction Company, Ltd., but an experienced colliery engineer has now advised the company that of the sixty acres forty can be worked for coal, and the principal Staffordshire thick seams lie immediately adjacent to the surface, and the coal can be easily worked. The land is estimated to yield over a million tons of coal.

"Lastly, Mr. Kitching has something to say of the merits of coalite, which is a hard, dense and smokeless fuel, and is not coke. Coke is difficult to ignite, requires a strong draught to keep it burning, and is not suitable for domestic grates. Coalite ignites easily and burns freely. It can be lighted and burnt under the same conditions as ordinary coal, and is absolutely smokeless. The profession of the chimney sweep is to be unknown with the use of coalite. Mr. Parker is endeavouring to cheapen and expedite the manufacture of coalite, and another piece of good news which Mr. Kitching had for the shareholders was that an important gas company had been in communication with the company with a view to erecting coalite plant close to its works, that they may purchase the gas from British Coalite, Ltd., at an agreed price, the Coalite Company to deal with the coalite and other bye-products."

The *Manchester Guardian* of Wednesday last published the following letter from a Manchester firm:—"We notice in your issue of this morning a description of the process by which it is proposed to produce coalite. We should be glad if any of your readers could inform us wherein lies the difference between the process described and that pursued by every gasworks in the country, the resulting residuum being hitherto called 'coke.' If it is answered that coalite is to be removed from the retort slightly earlier than is usually the case in gasworks, surely there is nothing to prevent these already-instituted works from emptying their retorts a little earlier or later, as they may think fit, should it be deemed desirable in order to satisfy any wants of their customers. Hitherto coke, a good saleable material, has been the residuum. Now it would appear, in the case of coalite, that gas is to be the residuum. How is this to be disposed of? Are we to have a competitor to our municipal undertakings? Such a thing is of course out of the question, so that the price obtained for the material itself, 'coalite'—that is, coal treated by the process mentioned—will have to bear almost the whole cost of its manufacture. How dear it would be under such circumstances we may easily imagine. We should be extremely glad if any of your readers would favour us with more light on the points we have mentioned."

Obituary.—The death is announced of *Mr. F. J. M. Page, B.Sc., A.R.S.M.* Mr. Page was an original member of the Society of Chemical Industry. He was formerly Lecturer in Chemistry and Physics at the London Hospital Medical College, and later became examiner in Chemistry and Physics to the Society of Apothecaries. He was joint author with Dr. A. P. Luff of a "Manual of Chemistry, Inorganic and Organic," which has passed through three editions. He was also the author of a work on elementary physics. Mr. Page was in his sixtieth year.

Increased Consumption of Mineral Manures in Russia.—On the occasion of the Congress of Zemstvos in Moscow, a report is being prepared on the disposition of the peasants towards mineral manures. Trials have been made by the Moscow Zemstvo in 803 peasants' lands. Many at first gave the idea a poor reception, but the satisfactory results have effected a revolution in the views of the peasants, who are now clamouring to have all the peasants' fields dressed with such a "miracle working powder," which has been found to work wonders; also on the fields where spring wheat was sown, because the wet weather had spoiled the chance for the winter-sown grain. As a consequence, the number of centres for the sale of mineral manure is to be largely increased for the coming season.

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Our Book Shelf.

THE CHEMICAL TRADE DIRECTORY OF CHEMICAL MANUFACTURERS, MERCHANTS, BROKERS AND AGENTS, AND MAKERS OF CHEMICAL PLANT IN GREAT BRITAIN AND IRELAND. Third Edition. Pp. 336. London: Davis Bros., 265, Strand, W.C. 1907. 10s.

The third edition of the Chemical Trade Directory, although reduced in price by one-half, has lost nothing in usefulness. The handier form of production will commend itself to those who have occasion to use it frequently, while the addition of about 250 new names shows that its comprehensiveness has been increased. The Directory has been completely revised, and the work has been compressed in such form as to give greater information in less space than in the two former issues.

The classified lists forming the first part of the volume have been entirely re-cast, and in this classification the true alphabetical system has been adopted. The makers of Hydrochloric Acid, Muriatic Acid, and Spirits of Salt, for instance, are all classed as "Acid, Muriatic," with references to the cross-headings for the trade terms. Makers of Vitriol, again, will be found under the heading "Acid, Sulphuric," with a cross reference to the trade name for the article. In metallic and other salts the basic constituent is adopted as the key to classification—Sulphate of Copper, for example, being classified as Copper Sulphate; Sulphate of Quinine as Quinine Sulphate, etc. Acids are placed under the general heading, "Acids," with a sub-alphabetical position, easily found on reference. Compounds sold under a general trade name, such as Glauber's Salt, Sal Prunella, etc., will be found classified under their trade terms.

The list of Public Analysts has been omitted from this edition of the Directory, as the Institute of Chemistry now issue an official list, to which inquirers are referred.

The number of questions addressed to this *Journal* as to any particular class of chemical products, apparatus, or machinery is so large, and our acquaintance with the makers of such articles is also so intimate, that in introducing the third edition of the Directory to our readers we hope to present them with a reply to all such inquiries as may arise in the conduct of their business. While not claiming to have prepared a volume which is free from errors or omissions, we think that those for whose use it is intended will find the book in its new form not only a cheaper reference work, but also more comprehensive and more systematically arranged.

INDUSTRIAL ALCOHOL: ITS MANUFACTURE AND USES. By J. K. Brachvogel, M.E., with special chapters by C. J. Thatcher, Ph.D. Pp. 516. London: Crosby Lockwood and Son. New York: Munn and Company. 1907.

The new provisions respecting the use of alcohol for industrial purposes, and the amended excise regulations established by the Revenue Act of 1906, were the outcome of investigations made by a Departmental Committee appointed in 1905 by the then Chancellor of the Exchequer (Mr. Austen Chamberlain). The report of that Committee included a very careful summary of the bearing of this problem of cheap alcohol on the development of the anilin dye industry, and in view of the importance of the whole subject to the chemical trade the present volume is of special interest.

The work is based on Dr. Maercker's "Introduction to Distillation," as revised by Dr. Delbrück and Dr. Lange. The "Introduction" was designed for the use of students and practical distillers, and the present volume comprises practically the entire text of Dr. Maercker's "Introduction," but so extended, revised, and enlarged that Mr. Brachvogel's book constitutes an intermediate work between the "Introduction" and the "Handbook" of Dr. Maercker.

As pointed out by Mr. Brachvogel in his preface, the principal European source of industrial alcohol is the potato. Up to the present year this vegetable has not yet come into general utilisation for this purpose in the United States, where the sources of spirit are the various grains and certain saccharifierous raw materials such as the sugar beet and molasses. The volume, therefore, deals almost exclusively with the manufacture of spirit from potatoes and grain, the other raw materials being touched in a brief manner only.

The principle of the natural pure yeast culture has been developed mainly in Germany, where the science of fermentation has attained a remarkably high level, Dr. Delbrück, who is one of the foremost German fermentologists, having been closely identified with the development of the process. The treatise accordingly deals with this subject as thoroughly as possible, the best German practice being set forth in detail.

The introduction to the volume is devoted to a consideration of the industrial value of tax-free alcohol and its importance to American agricultural interests, together with a summary of the processes used in spirit manufacture. Part I. describes the formation and characteristics of starch, and the changes which it undergoes in manufacture. Part II. deals with the enzymes or ferments; Part III. with the products of fermentation; Part IV. with the farinaceous raw materials used in spirit manufacture (the potato, barley, rye, corn or maize, oats, wheat, rice, etc.); Part V. with the preparation of the malt, including a description of the washing machines, steeping vats, the arrangement of the malt house, etc. Part VI. describes the working of potatoes, with descriptions of the various types of steaming apparatus. Then follow Part VII., on washing processes and apparatus; VIII., fermenting the mash; IX., the preparation of artificial yeast in the distillery; X., fermentation in practice; XI., distillation and rectification; XII., the arrangement of the distillery; XIII., the spent wash; XIV., the denaturing of alcohol; XV., alcohol for the production of power; XVI., heating with alcohol; XVII., illumination with alcohol; and XVIII., statistics of alcohol production (covering the United States, Great Britain, Germany, France, and Belgium). An Appendix of 83 pages contains specifications for methyl alcohol and benzine submitted for approval as denaturing materials, and also information as to the regulations and instructions relating to denatured alcohol in the United States.

The work cannot fail to be of the greatest use to the practical distiller, dealing, as it does, in a comprehensive manner with the best German practice. The printing is clear, and the illustrations are well reproduced; while the importance of the subject will make the book specially interesting to the chemical manufacturer who requires cheap alcohol for his operations.

Books Received.

"THE WORLD'S WORK," OCTOBER, 1907. Pp. 110. 1s.

TRINIDAD GOVERNMENT ANALYST'S ANNUAL REPORT. By Prof. P. Carmody, F.I.C., F.C.S. Pp. 17. Trinidad: The Government Printing Office, Port of Spain.

RED BOOKS OF THE BRITISH FIRE PREVENTION COMMITTEE: No. 121, FIRE TESTS WITH FIRE EXTINGUISHERS; No. 123, FIRE TESTS WITH HYDRANTS. Published by the Committee. 2s. 6d. each.

CATALOGUES, ETC.

PRICE LIST OF ORGANIC AND INORGANIC CHEMICALS. Harrington Bros., Ltd., Cork.

SYLLABUS OF CLASSES AT THE SIR JOHN CASS TECHNICAL INSTITUTE, SESSION 1907-1908. Pp. 118. Issued from the Institute, Jewry-street, Aldgate, London, E.C.

SOCIETY OF CHEMICAL INDUSTRY: *Liverpool Section*.—The Hon. Secretary announces that the October meeting of the present Session will not be held.

TECHNICAL COLLEGE FOR ABERDEEN.—It is announced that Mr. Andrew Carnegie has given £10,000. towards the establishment of a technical college in Aberdeen.

CHANGE OF ADDRESS.—Messrs. Higginbottom and Co. inform us that their business, which has been carried on at 116, Portland-street, Manchester, for the past 28 years, will in future be conducted from their new offices, 21, Spring Gardens, Manchester.

EXPLOSION AT A TAR DISTILLERY.—An explosion occurred last week at the works of Messrs. Josiah Hardman and Co., Ltd., Nechells, Birmingham, while workmen were transferring tar from a still to the cooling chamber. The end of the still was blown out, but fortunately little damage resulted.

THE INCOME TAX.—It is announced that income tax payers who have failed to comply with the requirement as to forwarding declarations in time to be received on Saturday last, may obtain from the Collectors a special white form, for the purpose of declaring in brief that their income will not exceed £2,000., and that the whole or part of such income is earned. If this form is used, the signatory must undertake to make the necessary return of his income from all sources when called upon to do so.

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Analytical Notes.

THE MAHLER-COOK CALORIMETRIC BOMB.

The Berthelot-Mahler bomb, in which the fuel is burnt in oxygen gas at 20 to 25 atmospheres pressure, is now generally recognised to be the only reliable apparatus for accurate measurements of the heat of combustion. The practice of testing the calorific value of fuels is rapidly extending, and it is becoming quite general, in placing fuel contracts, to specify that the coal shall have a specific minimum calorific value, in British thermal units, as measured in the Berthelot-Mahler calorimeter. Such tests are also carried out regularly in many works and power stations, to check and control the fuel supply. The chief difficulty which has prevented the more general adoption of these methods has been in procuring the necessary apparatus. With the advice of members of the staff of the Manchester University, Mr. Chas. W. Cook, of the University Engineering Works, Coupland-street, Manchester, for some time past has been constructing an improved type of bomb calorimeter which has already been adopted by a number of engineers, laboratories, and works. The complete apparatus is illustrated below, but a short account may be given of some of the special characteristics of the bomb.

The combustion vessel, of some 650 c.c. capacity, is constructed of mild open-hearth steel, its thickness and shape being carefully designed to ensure a high limit of safety. With the same object in view, the bomb is tested to over 200 atmospheres (3,000 lbs. per square inch), a matter of considerable importance, since in determining the heat value of oils or other quickly burning fuels the combustion is very rapid, and unexpectedly high pressures may be attained. The inside surface is coated with a special enamel, which satisfactorily protects the steel from corrosion.

For the convenience of fitting up and dismounting the apparatus the cover is provided with a special joint, which is held down by a powerful steel hexagon nut. The valve for the admission of the oxygen is made of a special alloy, which is practically incorrodible, and is of an improved form, perfectly gas-tight, and can be easily connected to the pressure tube conveying the oxygen.

The insulated ignition plug is the result of much experiment. It is somewhat unique, gas-tight at practically any pressure, and the electrical insulation is also perfect.

The holders for the crucible which contains the material to be tested, as well as the crucible itself, are made of solid platinum.

The stirring gear and the felt-lined double-jacketed copper calorimeter vessel will be seen in the illustration. In every detail of the construction an attempt has been made to attain the highest possible standard in quality.

The carrying out of tests with such a type of calorimeter is in reality quite a simple matter, and the concordance of the results obtained is greatly superior to that possible with any of the ordinary types of apparatus.

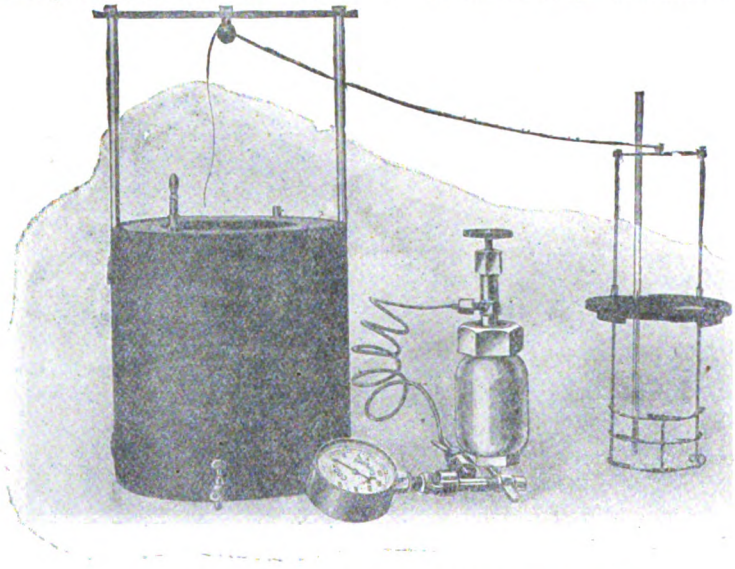

FIG 1.—THE MAHLER-COOK CALORIMETRIC BOMB.

ELECTRIC FURNACE REACTIONS UNDER HIGH GASEOUS PRESSURES.*

By R. S. Hutton and J. E. Petavel.

The paper gives an account of a detailed study of a number of electric furnace reactions. The object in view was to investigate the effect of wide variations in the physical conditions.

The experiments were carried out in an air-tight enclosure, and, by analysis and measurement of the gaseous as well as of the solid products, every reaction was followed in detail. A careful measurement of the total energy supplied to the furnace was also made, and the calculated yields per kilowatt hour are recorded in the appendix to the paper. Special attention was paid to the effect of the pressure and nature of the gaseous atmosphere in which the reaction was carried out

The principal processes studied are—the formation of calcium carbide, carborundum, and nitric acid, the direct reduction of alumina by carbon, and the fusion of quartz.

A full description is given of the two pressure furnaces in use, as also of the power plant, gas compressing plant, etc. The power employed in the case of the larger furnace was generally 10 to 15 K.W. The furnaces consist essentially of strong steel enclosures provided with the necessary valves, windows, and insulated electrode holders. Inside these pressure chambers any desired arrangement for arc or resistance heating could be mounted.

The currents used ranged up to 1,000 amperes, and special fittings were also provided for very high tensions (25,000 volts.) Working pressures up to 3,000 lbs. per square inch were frequently employed, the apparatus being also suitable for use as a vacuum furnace. The capacity of the larger enclosure was 20 litres, that of the smaller being about one-tenth of this.

Some preliminary experiments dealt with the electrical constants of carbon and metal arcs in air, hydrogen, carbonic acid, nitrogen, and coal gas, which are compared with similar values under ordinary atmospheric conditions. Tables and curves giving the relation between the E.M.F., current, and length of the arc are given. Marked differences are noticeable in the character of the discharge in neutral and oxidising atmospheres. The effect of pressure upon the rate of oxidation of heated metals is also considered.

The formation of calcium carbide is the first electric furnace reaction to be studied. A vertical smothered arc was used, the charge for each experiment amounting to about 10 kilogrammes of lime and carbon, an ingot of carbide weighing about 1 kilogramme being produced.

The experiments were carried out in an atmosphere (*a*) of carbon monoxide, (*b*) of coal gas, (*c*) of hydrogen at pressures ranging from 7 to 1,700 lbs. per square inch absolute. Among the conclusions arrived at the following may be quoted:—(1.) Contrary to the views usually held, the pressure of an atmosphere of carbon monoxide during the reaction does not appreciably decrease the yield. (2.) If the carbide is cooled in an atmosphere of carbon monoxide, a back reaction occurs at about the freezing point of the substance. The effect is, however, limited to the surface of the ingot, and when working on a large scale this does not seriously alter the weight of product obtained.

The fusion of quartz under pressure was next undertaken; the experiments were carried out in air and in hydrogen at pressures up to 2,500 lbs. per square inch; they showed *inter alia* a marked decrease in the vaporisation of the fused product, but no appreciable increase in its fluidity and transparency.

It is generally accepted that carborundum results from interaction of silica vapour and carbon. The diminished vaporisation of silica, noted above, accounts for the very limited formation of carborundum which occurs under pressure; the proportion of the amorphous variety was also much lower than is usually the case.

The difficult problem of the direct reduction of alumina by carbon resulted in a lengthy and detailed research. Briefly stated, the conclusions arrived at are:—(1.) That metallic aluminium can be produced by a purely thermal reaction. (2.) That the lowest temperature at which this reaction can take place coincides with the melting point of alumina. (3.) That the metal is first produced in the form of vapour. Under ordinary conditions, however, carburisation immediately occurs

* Abstract of a paper read before the Royal Society. Communicated by Professor A. Schuster, F.R.S.

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by the interaction of the metal vapour with the carbon monoxide. To collect the pure metal, two precautions are found to be necessary: (1.) The carbon monoxide must be diluted and removed. (2.) The vaporisation of the metal must be limited by operation under high gaseous pressures.

In certain experiments quoted, a small quantity of aluminium (40-50 grammes) was collected, and the working of the process on a large scale is chiefly a matter of the arrangement and construction of the furnace.

The only gaseous reaction referred to in detail is the formation of oxides of nitrogen. Two distinct series of experiments were carried out: For the first, a high tension (25,000 volt) transformer was employed in conjunction with the smaller furnace. In the second series, a more powerful but lower tension arc discharge was spread out by a mechanical interrupter actuated by a small air turbine placed inside the larger furnace. Both series show an increase of efficiency attributable to pressure.

The paper is illustrated by some figures, and followed by an appendix giving a summary of the numerical results.

A NEW PRESSURE FILTER FOR LABORATORY USE.

While many of the filtering operations carried out on a manufacturing scale are performed under pressure, the use of filtration under pressure in laboratories is not by any means general, notwithstanding the numerous advantages of this method over filtration by vacuum, which latter is so largely employed in the laboratory. This state of things is no doubt due to the fact that the materials most frequently used for laboratory vessels, *viz.*, glass or porcelain, cannot be used for internal pressure without special precautions.

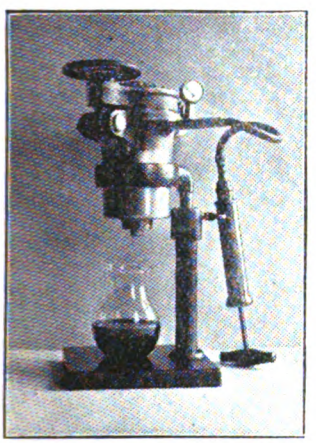

FIG. 2.—A NEW PRESSURE FILTER.

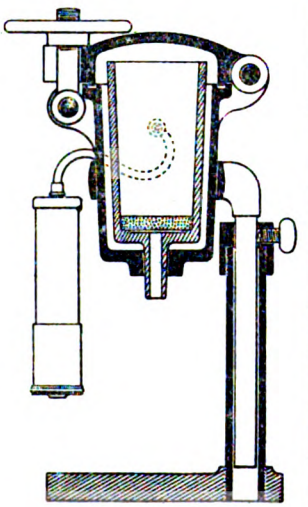

FIG. 3.—SECTION.

The use of glass or porcelain filter vessels is, however, made quite safe and convenient by the patented method of balancing the pressure as employed in the laboratory pressure filter which we illustrate in Figs. 2 and 3. As will be noticed in the section (Fig. 3,) this pressure filter consists of a small pressure vessel, mounted on an adjustable stand, and provided with a hinged cover which can be quickly closed by means of an eyebolt and screw with large hand-wheel. The filtering funnel, which may be of stoneware, porcelain, or glass, is placed in this vessel, and rests on a rubber ring (not shown in the illustration) round the outlet opening. The vessel is connected to a compressed-air main, if such is available, or the necessary pressure may be readily obtained by means of a bicycle pump. The filtering funnel is then surrounded by compressed air, and the pressure on it is practically balanced, as the bottom of the filter is provided with circular ridges supporting the filtering material, which transmits the pressure resting on the surface of the liquid. The filtering material is preferably a porous plate, such as the well-known Schuler's porous filter plates, which may be used for neutral, acid, alkaline, and corrosive liquors, even at high temperature. These filter plates are luted into the filter by some material appropriate to the liquor to be filtered, *e.g.*, a mixture of sulphur and graphite or asbestos-silicate cement for acid, and Portland cement for alkaline liquors. Where a permanent lute is not desired, the plates may simply be packed with a strand of asbestos yarn rammed in tightly.

The small filter shown in the illustration has a funnel with a capacity of about 200 c.c., and the outer vessel and cover are made of bronze. Larger filters on the same plan are made of cast iron, with stoneware funnels, having a capacity up to 1,500 c.c. and a filtering surface of about four inches diameter.

The advantages of filtering under pressure are, of course, well understood, but may be worth recapitulating here. Hot or volatile liquids may be filtered, while this is not possible with vacuum, and the same thing applies to liquors containing dissolved gases, such as sulphuretted hydrogen. Where contact with air is not admissible, inert gases, such as nitrogen or carbon dioxide, may be used. The filtered liquor is not concentrated by evaporation, as is generally the case with vacuum filtration, but retains its original specific gravity. The rate of filtration and the attainable thickness of solid matter on the filter are both much greater than with the small pressure acting on the vacuum filter.

This filter, which we think should prove a valuable piece of apparatus, both for laboratory work proper and for ascertaining the necessary filtering surface and the best working conditions for work on a manufacturing scale, is supplied by Messrs. S. Bornett and Co., Ltd., 19, St. Dunstan's Hill, London, E.C.

CHEMICALS IN CHINA.

TENG YUEH.

THE following table shows the total trade reported at the custom house at Teng Yueh and its branch offices for the last four years:—

Year.	Exchange. s.	d.	Value. Currency. Haikwan taels.	Value. Sterling. £
1906 ..	3	3½	1,397,877	230,067
1905 ..	3	0 1/13	1,679,999	258,461
1904 ..	2	10½	2,085,504	299,791
1903 ..	2	7½	1,715,653	225,179

The total trade for the year 1906, £230,067., is less by £28,394. than that reported in the previous year. The decrease represents the difference between a diminished import of £36,390. and an increased export of £7,996.

Of the total import of £185,643., goods to the value of £131,254. were sent inland under transit pass during the year, leaving a value of £54,389. to be accounted for in the neighbourhood of Teng Yueh. The distribution of the decrease in imports in 1906 was £14,357. in the transit trade and £22,033. in local consumption.

The local mining industries show increased exports for 1906. Mines exist in the province, but mining is not much encouraged, and, even if it were, the want of communication would prevent its development.

Orpiment does not come from Menghua itself, but from a place called Shih huang ch'ang on the borders of the Menghua and T'ai ho (Tali) districts, about 24 miles from Hsia kuan.

The following were amongst the articles imported into Teng Yueh during 1906-05:—

		1906. Quantity.	1906. Value.	1905. Quantity.	1905. Value.
Japanese matches	..gross,	43,725	£3,337	15,017	£1,028
American kerosene	..gallons,	68,735	£4,553	36,855	£2,326

The chief export article was:—

Orpiment	..lbs.	800,400	£6,026*	468,400	3,357*

* Approximately.

FOOCHOW.

The gross trade of Foochow for 1906 shows an increase of £222,271. The appreciated volume here recorded is only apparent when the figures are turned into sterling. If the calculation be made in Haikwan taels there is, on the contrary, a decrease of 418,911 taels. Similarly, when comparing the net values, the apparent increase of £123,148. in 1906 becomes a decrease of 753,552 taels. These discrepancies are due to the rise of the rate of exchange for the Haikwan tael from 3s. 0 1/16d. in 1905 to 3s. 3½d. in 1906. There was a decline in imports, both foreign and native, amounting to £118,893. in the one, and to £40,955. in the other. In exports, however, those to foreign countries increased by £266,341. and those to Chinese ports by £6,655.

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The total value of metals imported was £107,113., a decrease of £22,740. compared with 1905. Copper (bars and slabs) contributed £49,868.; iron and mild steel (new and old), £10,768.; lead, in pigs and bars, £14,610.; and tin, in slabs, £36,028.

American kerosene increased from 868,040 gallons, valued at £19,298. in 1905, to 996,700 gallons, valued at £22,965. in 1906; Sumatra oil decreased from 2,200,500 gallons (£39,461.) to 1,679,399 gallons (£29,207.). Borneo oil was imported to the amount of 200,000 gallons (£3,357.). Of the Sumatra oil, 462,121 gallons were imported in bulk; all other oils were imported in tins. The Asiatic Petroleum Company is the only firm here having tank installations. The Standard Oil Company purpose erecting three tanks at Pagoda Anchorage with a combined capacity of over 2,000,000 gallons.

The total exports direct to foreign countries, including Hong Kong, show an increase of £266,341. over the 1905 total, while the exports to Chinese ports remain practically the same, being £787,755. as compared with £781,100.

Oils of all kinds (bean, camphor, etc.) advanced from £3,660. in 1905 to £18,161. in 1906.

The principal articles of import into Foochow during 1905 and 1906 were :—

	Quantity.			Increase or decrease in 1906, corresponding with	
	Average 1901 to 1905.	1905.	1906.	1905.	Average 5 years.
Aniline dyes ....value	£5,967 ..	5,552 ..	4,882	− 670 ..	− 1,085
Japanese matches, gross	211,999 ..	259,021 ..	321,036	+ 51,615 ..	+ 89,646
Kerosene Oil ....gals.	3,165,211 ..	3,099,690 ..	2,875,399	− 191,291 ..	− 289,812
Article of export :—					
Camphor .....cwts.	1,574 ..	4,505 ..	13,535	+ 8,730 ..	+ 11,961

SHASI.

The trade of Shasi in 1906 presents no features of interest to British merchants or manufacturers. The net value of the imports and exports was £246,403., the former amounting to £158,338. and the latter to £88,065., a considerable advance on the figures for the previous year.

The two principal articles of native produce exported from Shasi during 1902-06 were :—

	Cwts.				
	1902	1903	1904.	1905.	1906
Oil, wood ..	3,890	1,453	..	125	1,222
Tallow, vegetable..	6,496	12,912	5,999	2,993	9,819

TIENTSIN.

During 1906 the net trade of the port of Tientsin was :—Imports, £14,983,542.; exports, £3,592,082.; total, £18,575,624. In 1905 the figures were as follows :—Imports, £12,308,041.; exports, £2,217,045.; total, £14,525,086.

Copper ingots and slabs fell from £411,720. in 1905 to £104,028. in 1906. The mints in Tientsin, however, still turn out hundreds of thousands of copper pieces, no silver coins being, so far, regularly minted.

Aniline dyes and artificial indigo show an increase, their values for 1905 being £84,672. and £65,072. respectively, compared with £108,229. and £141,258. in 1906. Japanese matches have fallen off by 3,123,504 gross, and £62,002. in value.

Kerosene from America amounted to 6,832,190 gallons in 1905, but owing to the boycott and the subsequent disfavour of American merchandise this total fell to 5,067,599 gallons in 1906. An article so necessary to the Chinese now-a-days could not be completely boycotted, but much damage was done to the trade, and preference was given to kerosenes of other origin. The latter being, however, of inferior quality, could not entirely supplant the American oil. Russian oil, owing to the troubles in the Transcaucasian provinces, ceased to come altogether, and the void was filled by the two Asiatic products from Sumatra and Borneo. The former (chiefly Langkat) has increased with extraordinary rapidity, the import in 1905 being 6,820,927 gallons (£138,237.) and via Chinwangtao 626,770 gallons, making a total of 7,447,697 gallons, which rose in 1906 to 12,422,579 gallons (£194,906.). Borneo oil has also advanced, the import in 1905 being only 100,000 gallons (£2,522.). In 1906 it leapt up to 1,973,824 gallons (£27,238.).

In former years almost the whole import was in cases, but during 1906 the deliveries in this form have fallen very rapidly, and the oil has been shipped largely in bulk.

The principal articles of net import during 1906-05 were :—

	1906.		1905	
Metals :—	Quantity.	Value. £	Quantity.	Value. £
Copper ingots, slabs cwts.	5,693	24,398 ..	108,834	403,857
,, ingots, slabs Japanese ... ,,	19,525	79,630 ..	2,159	7,863
Dyes :—				
Aniline .. cwts.	—	108,229 ..	—	84,672
Indigo .. ,,	807	582 ..	6,218	62,882
Artificial indigo ..	—	141,258 ..	—	65,072
Japanese matches, gross	4,173,725	149,763 ..	7,297,229	211,765
Kerosene oil :—				
American .. gals.	5,067,599	99,748 ..	6,832,190	151,885
Borneo .. ,,	1,973,824	27,238 ..	100,000	2,522
Russian .. ,,	—	— ..	2,108,580	47,696
Sumatra .. ,,	12,422,579	194,906 ..	6,820,927	138,237

The recovering of debts claimed to be due by Chinese subjects to British merchants is a constant source of worry and friction to the consular authorities. The delays experienced by the usual treaty part procedure, even when the facts are simple, are often very great. The British Consul at Tientsin has, owing to this state of things, had recourse to a system of preliminary investigation of claims before sending them to the native courts. The Chinese defendant is requested to attend at the Consulate, and, in this way, the case often assumes a different aspect, and the presentation of the claim to the Chinese is modified accordingly. The Chinese authorities are asked to fix a date for the hearing, when a British plaintiff may attend to give evidence, and a member of the Consulate staff be present to watch. This method is open, however, to objection in that it throws on the Consulate work which ought to fall on the investigating tribunal.

"The true remedy for this embarrassment," says the Tientsin Consul, "is without doubt in the institution of a special court for the trial of mixed civil suits. A court which should be—not a mixed court of the Shanghai type, which is not desirable to multiply, but a tribunal for the hearing of mixed cases—and especially mixed civil cases. Such a court should be presided over by a specially selected, well-paid, well-reputed, capable Chinese official, administering Chinese law according to principles and procedure which he understands, embodied in some not too elaborate set of rules for the conduct of his court. Even so, there would doubtless be many disappointments for foreign plaintiffs, especially where a case involved questions not only of fact, but difficult points of commercial law, which it is unlikely would be appreciated and treated as in a court of his own country. But the British merchant out here is not as a rule unreasonable, and knows that enterritoriality does not extend to bringing Chinese defendants into foreign court. I think it is quite probable that next year's trade report may have progress to record on this far from unimportant subject."

Continental Notes.

THE annual meeting of the Society of German Naturalists and Physicians was held from September 15 to 21, at Dresden, and reports of many of the papers read are given in the *Chemiker Zeitung* for the 18th and 21st. Before the Botanical Section, Dr. Hans Molisch read a series of three papers dealing with microscopy and ultra-microscopy. In one of these he discussed the probability of the existence of micro-organisms too small to be seen in the ordinary microscope, and he comes to the conclusion, on various grounds, that there are few, if any, such very minute bacteria. Colonies of bacteria are always resolvable by powerful modern microscopes, although, in some cases, the individual micro-organisms appear only as points. Organisms that are observed by the ultra-microscope can also always be seen in the field of the microscope. In those cases where plants suffer from diseases for which no bacteria can be detected, as the mosaic disease of tobacco, it is probable that the disease is not due to a bacterium, but to chemical change. There are, moreover, theoretical reasons for doubting the existence of organisms much smaller than those which have already been observed.

The other two papers deal with Brownian movements, that is to say, with the movements that can be observed in the case of substances that have molecules so large that their dimensions approach microscopic size. In the case of solutions of resin

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and indiarubber it is not, however, necessary to use a microscope to observe the movements of the particles, for they can be seen by the naked eye if the solution be held at the proper angle, in direct sunlight. A similar movement can be observed, under the microscope, of the particles of smoke floating in the air.

In the Physical Section, E. Grimschl described a new mercury air pump, a modification of the Toepler pump, from which it differs in having connected to it a water-air pump, by means of which a receiver is maintained at a vacuum of a few millimetres. The mercury pump delivers into this vacuum, and the work is consequently greatly accelerated and reduced. Moreover, it is only necessary to lift the mercury reservoir through quite a short distance, instead of through the whole height of the mercury barometer each time.

In the Chemical Section, A. Frank described an ingenious technical method for the manufacture of hydrogen. This gas is now used on a large scale for filling balloons and flying machines, but if it could be obtained at a moderate price it could also be employed on a very large scale for metallurgical and other operations. At present it is prepared either by the action of acids or alkalies on metals, or by electrolysis, or by the action of calcium hydride. Frank, however, proposes to use, as his source of hydrogen, water gas, which, as a rule, contains about 50% of hydrogen, together with a considerable proportion of carbon monoxide, and smaller quantities of carbon dioxide, nitrogen, and oxygen. To remove these impurities he leads the gas over calcium cyanide heated to a moderate temperature in retorts. This absorbs the oxides of carbon with separation of graphite, as also the oxygen and nitrogen, the latter with the formation of cyanamide. The plant required for this process is simple: only a water-gas generator charged with coke, and a retort in which the carbide can be heated. For a fortress in which it was required to produce 2,000 cubic metres a day, one plant would be sufficient. A single passage over carbide was found enough to purify the hydrogen up to 99 to 99.7%. In order to economise the carbide, a process has been worked out for first separating the greater part of the impurities by compressing and cooling the gas. The carbon monoxide is thus liquefied, and the carbon dioxide solidifies and can be filtered off. The carbon monoxide obtained can be utilised as a source of power to perform the work of compression.

In a further communication, Frank recommends the use of cyanamide as an addition to explosives with the object of reducing the temperature of explosion. Various substances are at present used for this purpose, in different classes of explosives, for in practically all cases it is desirable to keep the temperature as low as possible without weakening the explosion. In the case of explosives used in coal mines the temperature must be kept low, to prevent danger of igniting fire damp, and in smokeless powders in order to diminish the erosive action on the bore. For these purposes Frank suggests the use of cyanamide, or dicyan-diamide, which he claims to have a strong cooling action and also a beneficial effect on the stability of the explosive. To overcome the objection that these substances are soluble in water, he is endeavouring to find a method for the manufacture of tricyan-triamide, $C_3N_6H_6$ (melamine), which shall give a good yield at a moderate cost.

L. Wöhler read a paper on a platinum product that is analogous to purple of Cassius. It is formed by the action of stannous chloride on solutions of platinum chloride, and the liquid takes different colorations according to the conditions; other reducing agents may be used instead of stannous chloride.

Escalera Silver Lead Mining Co., Ltd.—Registration has been made of the issue, on August 27, of £4,560. debentures, part of series created Jan. 30, 1907, to secure £15,000., charged on the company's undertaking and property, present and future, subject as to a certain portion thereof to an indenture dated September 26, 1906. No trustees. Previously issued of same series, £4,130.

Explosives in Refuse.—At the Manchester Corporation Refuse Destructor Works a collection of rifle cartridges has been found amongst the rubbish which was being destroyed. The greater portion of the cartridges were unspent, and included Dum-Dum bullets and cartridges of the Lee-Metford and Martini-Henry patterns. Another danger which is experienced in the destruction of refuse is the number of "Sparklets" which are found. When heated, these cartridges of compressed gas explode and shoot out of the furnace with sufficient force to cause serious injury to the men in charge of the apparatus.

Indian Notes.

THE Mysore Government is establishing a mycological and entomological laboratory to study plant diseases and insect pests in the Mysore Province.

India will be officially represented at the Franco-British Exhibition to be held in London next year, and £10,000. is being spent to bring Indian manufactures and arts to the notice of the British public.

In dealing with India the native peculiarities have to be considered. Each Presidency is distinct, even in language, manners, and customs. Some British manufacturers appear to act as if all the Presidencies were the same.

The value of the imports into India, during the month of July, compared with the corresponding months in 1906 and 1905, show a remarkable development, viz.:— Chemicals, drugs, narcotics, etc., 1905, Rs.90,14,989; 1906, Rs.9,644,828; 1907, Rs.11,399,900; Mineral and other oils, 1905, Rs.9,694,545; 1906, Rs.9,957,890; 1907, Rs.12,258,659.

Jute affords shelter to numerous insects, and remedies are sought. The most noxious to jute are (1) the indigo catterpillar; (2) the jute semi-looper; (3) the small green semi-looping caterpillar; and (4) the jute weevil. The area under jute in India is 2,941,203 acres.

In some parts the young crops of indigo have suffered great damage from locusts.

Market movements (Calcutta, 5th September) are reported as under:—

Borax.—Good demand for export, but sales limited, owing to light stocks and small production. Quotations Rs.14.8 to Rs.15.8 per bazaar maund, weight, loose, prompt delivery.

Saltpetre.—Very little doing. Nominal market rates Rs.8.0 to Rs.8.14 for Furrackabad refined, and Rs.7.12 to Rs.7.14 for ordinary 5% refraction qualities, per factory maund, weights, loose. Stocks of lower refraction qualities are small, while those of higher refraction grades are fair. Shippers generally are holding off.

Shellac.—Little doing. Quotations, T.N. in diamond, Rs.72.0. Forward positions are for the moment neglected. Last month's shipment totalled 16,000 chests.

Beeswax.—The season is closed. Stocks and supplies very small. Available qualities are not very durable. Quotations, Rs.75.0 to Rs.80.0 for local refined kinds, and Rs.65.0 to Rs. 75.0 for raw, per bazaar maund.

Castor-oil Cake.—Little business has been doing, but sellers continue firm. Prices, Rs.6.0 for average, and Rs.6.2 for picked quality per bag of two maunds, f.o.b., prompt shipment. Offerings are low.

Bone Meal.—A fair demand exists, and stocks are very moderate. Prices, Rs.72.0 for New Zealand quality, Rs.68.0 to Rs. 69.0 for usual standard of steamed quality, and Rs.61.0 to Rs.61.8 for usual standard of unsteamed quality, per ton of 20 cwts., f.o.b., for near and early shipments.

Bone-dust.—Quotations, Rs.50.0 and Rs.52.0 per ton, f.o.b., for unsteamed and steamed qualities respectively for prompt and forward deliveries, usual analysis. Offerings of all grades are very moderate.

Castor Oil.—Business small, but sellers are firm, and prices for fine qualities have advanced. Prices are Rs.12.1 to Rs.14.0 for ordinary qualities, weight, loose. For shipment, Rs.19.8½ for fair firsts, Rs.14.8½ for good seconds, and Rs.13.8½ for thirds in cases, per bazaar maund, weight, f.o.b., for near and early shipments. Offerings continue limited.

Cocoanut Oil.—Stocks are accumulating, and the market is lower. Quotations, Rs.20.8½ to Rs.22.12½ per bazaar maund, weight, f.o.b., in cases, for prompt and near forward deliveries.

Salt.—The market closed easy. Local stocks held in maund weights were: ex Liverpool 628,946, Hamburg 458,657, Aden 352,324, Saliff 183,439, Phocee 155,037, Spanish 173,788, Port Said 133,595, and Bombay 80,279. Quotations per maund were: Liverpool Rs.46.0 to Rs.50.0, Hamburg Rs.48.0, Aden Rs.42.0 to Rs.59.0, Saliff Rs.46.0 to Rs.70.0, Phocee Rs.61.0, Spanish Rs.45.0 to Rs.67.0, Port Said Rs.47.0 to Rs.61.0, and Rs.50.0. Since the reduction in the salt duty, the consumption of salt in India in the four months, April, May, June and July, has gone up 2,400,000 maunds.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Artificial Manure. E. Pohl, 20,575. September 16.
Stable Hydrosulphites. Farbwerke vorm. Meister Lucius and Bruning. 20,580. September 16.
Hydrochlorate of Ammonia, Sulphite of Sodium and Hyposulphite of Sodium. F. Duviunsart. 20,613 September 16.
Regulation of the Flow of Liquids. J. L. Hodgson. 20,616. September 17.
Washing, Separating or Concentrating Metallic Ores, Minerals, etc. C. Craig, W. Craig, and G. K. Craig 20,622. September 17.
Calcium Carbide. H. L. Hartenstein. 20,647, 20,648, 20,649. September 17.
Electric Furnaces. H. L. Hartenstein. 20,650. September 17.
Calcium Carbide. H. L. Hartenstein. 20,652, 20,653, & 20,654. September 17.
Isoprene. L. Gottschalk. 20,732. September 18.
Filter-Presses. S. H. Johnson. 20,809. September 19.
Kilns. R. Boch 20,849. September 19.
Hydrogen Peroxide Franz Fischer. 20,868. September 19.
Cooling Water. C. Kohler. 20 869. September 19.
Hydrogen Peroxide. A. Gueisser. 20 906. September 20.
Combustion of Smoke. R. Mederer. 20,907. September 20.
Soap Manufacture. E. Schou. 20 916. September 20.
Magnetic Ore Separator. L S. Burt. 20,920. September 20.
Explosives. M. A. G. Himalaya. 20,931. September 20.
Converting Ammonia Sulphite Solution into Ammonia Sulphate Solution and Free Sulphur. R. Kennedy. 20,955. September 21.

COMPLETE SPECIFICATIONS ACCEPTED.

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1906.

Grinding or Crushing Mills. Fraser. 18,454.
Power Gas Producers. Mason's Gas Power Company, Hollis and Wright. 20 484
Camphene. Goldsmith and British Xylonite Company. 21,180.
Camphor. Goldsmith and British Xylonite Company. 21,171.
Methods of Chemical Analysis. Redsdale. 21,342.
Sulphurised Dyestuffs. Imray. 22,872.
Hydrocyanic Acid. Hutton and Smith. 23,835.
Producing Pure Hydrogen. Frank. 26,808.
Kilns. Czegler and Eotvös. 27,747.

1907.

Aromatic Sulphonic Acids and their Alkali Salts. Boult. 2,565.
Steam Superheaters. Sugden. 4,411.
Charging Electric Furnaces for Carbide Manufacture. Peterson. 5,657.
Monobasic Organic Peroxides. Houghton. 9,725.
Producing Oxide of Nitrogen. Häusser. 13,989.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

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Improved Process for Extracting Tin from Iron-containing Tin Products such as Residues, Slag, Ashes, Scraps, Soot and the Like. Dr. H. Brandenburg, Moorenring, 29, Kempen-on-Rhine, Germany. British Patent 22,033. October 5, 1906.

According to this invention the waste products are smelted with silicate of tin, which is either prepared for the purpose of any well-known process or obtained from the slags produced during the extraction of tin by old processes, the smelting taking place preferably in the presence of a basic flux. When the waste products, and more particularly tin ore containing large quantities of iron, are melted with silicate of tin, or with a slag containing a silicate of tin, the reaction takes place in such manner that the tin of the waste products treated and the tin contained in the slag or in the silicate in combination with the silica appears in metallic state, whilst the iron is combined with the silica. Any oxide or dioxide of tin that may be mechanically dissolved in the slag reacts in a similar manner. In this way, tin free from iron is obtained, partly consisting of the tin of the raw material, and partly of the tin of prepared silicate of tin referred to above, or of the oxide or dioxide of tin dissolved in the slag.

Improvements Relating to the Separation of Gases from their Mixtures and particularly the Separation of the Constituents of Atmospheric Air. Société l'Air Liquide and René Jacques Lévy, both of Rue St. Lazare, Paris. British Patent, 3,302. February 9, 1907.

This invention has reference to a process of the kind described in Specification No. 5 649 of 1903, for obtaining the separated gases in a pure condition. According to this prior process, liquid air is separated into oxygen and nitrogen by a method of rectification, a portion of the gaseous nitrogen resulting from this rectification is reliquefied, and the reliquefied nitrogen so obtained is utilised for completing the rectification. These main features are again found in the present specification, which consists in certain improvements in this prior process.

According to this later invention, which may be used in conjunction with or in substitution for the previous process, the whole or part of the gaseous nitrogen resulting from the separation effected under pressure is reliquefied whilst still under pressure by causing it to vaporise the liquid oxygen resulting from the separation and existing at a lower pressure than that at which the separation is effected. This modification of the prior process is advantageous because, assuming the pressure at which the separation takes place to be the same in each case, this novel feature enables the quantity of gas reliquefied to be raised to its maximum, and the ultimate separation to be more complete.

A Process for Recovering Chromic Acid from Solutions of Sulphate of Chromium, in an Electrolytical Manner. Chemishe Fabric Buchau, 1, Carlstrasse, Magdeburg, Prussia. British Patent, 9,636 April 25, 1907.

This invention relates to a process for the oxidation of solutions of sulphate of chromium to chromic acid, and consists in dispensing with separation of the anode and cathode solutions and avoiding reduction of the chromic acid by hydrogen formed at the cathode, by the addition of sulphate or acetate of an alkali, or a mixture of these.

Improvements in the Manufacture and Production of Colouring Matter Lakes. Badische Anilin and Soda Fabric, Ludwigshafen-on-the-Rhine. British Patent, 10,363. May 3 1907.

The invention claims:—(1.) The manufacture of colouring matter lakes by converting an azo colouring matter, obtainable by combining either amido-azo-benzene, or amido-azo-toluene, with 1-naphthol-4-sulphonic acid, into an insoluble salt thereof with a single metal either in the presence of a substratum, or not. (2.) The manufacture of colouring matter lakes as described in the foregoing example. (3.) As new articles of manufacture colouring matter lakes which can be obtained according to the foregoing claiming clauses.

Improvements in the Manufacture of Soap. A. F. Thompson, 12, Frognal Parade, Hampstead, London, N.W. British Patent, 18,925. Aug. 24, 1907.

The invention relates to the manufacture of that class of soap described, for example, in Specification No. 492 of 1867, in which two or more soaps are combined by inlaying or inletting for the purpose of obtaining a distinctive result whilst retaining the particular quality, perfume or appearance of each. The present invention consists in forming one or more cruciform recesses in a bar or cake of soap having certain characteristics of colour and perfume, for example, and inserting into such recess or recesses one or more portions of soap having certain different characteristics, thereby maintaining such characteristics separate and distinct.

Manganese in India.—The *Manchester Guardian* says:—"The manganese industry in India continues to make remarkable progress, and efforts are now being set on foot to erect smelting machinery on a large scale in Mysore, which may be regarded as the centre of the industry. The present ruler of Mysore is keenly alive to the possibilities of his State, and has recently ordered very extensive geological and mineralogical surveys to be carried out, in the hope of locating further deposits of this metal. A drawback to the industry at the moment is the considerable distance that coal has to be brought and its consequent dearness, and to this is attributed the fact that smelters have not before been erected. Pressure is being brought to bear on the Indian Government, however, to consent to place Mysore in quicker and more direct communication with the nearest coal fields, and it is hoped that this will meet with success. Those who are responsible for the development of the industry are not without hope of soonor or later locating coal in Mysore itself."

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CHEMICALS, ETC., IN RUSSIA.

IN his report on the Trade and Commerce of Riga, during 1906, just issued by the Foreign Office, Mr. Consul Woodhouse states that in spite of the disturbed state of the country the trade of Riga for the past year left little to be desired.

The following table indicates the position of the United Kingdom and other countries with regard to the imports into Riga during 1904-05 :—

Country.	Per Cent. 1904.	1905.
United Kingdom	46.3	38
Germany	34.6	45.6
Denmark	3.5	4.6
Netherlands	5.8	4.7
Belgium	3.6	2.9
Other countries	6.2	4.2

The exports from Riga in 1906 were in advance of those of any previous year, and exceeded the shipments of 1905—a record year—by 20%. Ten years ago the total value of the export, under the most favourable circumstances, did not exceed, £7,000,000. Now they reach £16,588,400. The extension of railway communication and the increased facilities for transport —especially of produce from the eastern provinces of Siberia —have largely contributed to the commercial activity of the port of Riga.

The linseed crop in these provinces was satisfactory, and, consequently, there was increased export of this article. It amounted to £32,315 tons, against 29,339 tons in 1905.

The total exports of linseed from the northern and southern parts of Russia in the years 1904-06 are given below :—

Port.	1904 Tons.	1905. Tons.	1906. Tons.
Riga	16,225	29,339	32,315
Libau	9,839	13,672	11,401
Windau	94	114	102
Pernau	2,106	2,141	4,241
St. Petersburg	14,476	27,016	28,873
Reval	2,420	4,253	5,430
Black Sea ports	7,889	7,397	4,111

The total export of linseed from Russia is put down at 115,857 tons.

Riga's export of oil cake is increasing. Within the five years' period 1896-1900 about 43,200 tons per annum have been exported. Last years' export amounted to 75,900 tons, chiefly consisting of linseed cake.

The following were amongst the articles of export from Riga during 1904-06 :—

		1904.	1905.	1906.
Linseed	tons	16,225	29,339	32,315
Tar and turpentine ..	,,	1,443	1,871	1,236
Oils—				
Linseed	,,	53	27	32
Olconaptha	,,	9,665	8,038	8,130
Petroleum	,,	18	68	189
Oilcake..	,,	69,840	60,544	75,900
Pyrites (for Pernau) ..	,,	11,241	13,876	21,354
Lead	,,	3,743	6,000	2,470
Metal ore	,,	12,980	11,500	17,000
Olive oil	,,	285	182	345
Resin	,,	4,810	7,245	4,032
Salt	,,	272	250	350
Tanning materials ..	,,	2,930	3,223	5,562
The imports included :—				
Chalk	tons	61,357	34,100	20,000
Chemical manure (superphosphate	,,	37,705	30,500	42,416
Copra	,,	5,144	10,975	10,254
Drugs	,,	5,000	5,150	7,358

LIBAU.

The shipment of linseed continued, and the quality was better than before. Quantities were shipped to Stettin. The Plata and Calcutta seed is the cheaper, though the Baltic seed is the superior in oil giving qualities.

WINDAU.

The Vice-Consul at Windau reports that trade at that port suffered a decrease during 1906 of £774,403. in exports and £257,960. in imports compared with the previous year. This decline was due entirely to the transit trade, as the timber export trade—the trade proper of Windau—shows an increase of 50% over 1905.

Linseed is not a very important item in the export, but it was fairly well maintained. Oilcake suffered also from the prevailing depression and scanty harvest, and the export dropped from £10,888. in 1905 to £10,423.

PERNAU.

In 1906 8,803 quarters of crushing linseed were shipped as against 6,430 qrs. in 1905. The balance of the arrivals was sent to Riga.

Of iron pyrites, 21,354 tons (17,957 tons Westphalian and 3,397 tons Spanish) were imported against 13,876 tons Westphalian in 1905. Of cork-wood, 289 tons, against 246 tons, and of chemical manure, 3,040 tons against 2,170 tons were imported in 1906 and 1905 respectively.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Oct. 2.
120,000	1	1	Bell's Asbestos ... ord	1⅞ 2
	Stock	100	Borax Consol 4½% deb. stock red	109
80,000	10	10	Do. ... pref.	11¼
1,356,477	1	1	Bradford Dyers ... ord.	24/-
1,50 ,000	1	1	Do. ... 5% c.p.	21/3
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	42/-
10,000	10	10	Do. ... 6% c.p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5 5/16 5⅜
82,678	10	10	Do. 7% pref.	17¼
96,000	5	5	Bryant and May ... c.p.	12¼ 12¾
40.000	10	10	Buxton Lime Firms ord.	6 1/16 6 3/16
352,500	5/-	5/	Cassel Cyanide Co., Ltd. ,,	21/-
450,000	1	1	Castner Kellner ... ,,	24/9 25/3
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J., and Sons c.p.	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/3 27/9
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94⅝
	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	3⅜ 3⅝
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	12 8/16
200,000	10	10	Lever Bros. ... 5% c.p.	10 25/32
400,000	10	10	Manchester Ship Canal ord.	21/-
400,000	10	10	Do. per 5% pref.	30/- 30/6
120,000	1	1	Mandelberg ... ord	31/6 32/6
185,145	1	1	Mason and Barry ... ,,	57/6
110,007	10	10	Nitrate Railways ... ,,	13 13½
228,540	10	10	Nobel Dynamite Trust ,,	16 8/16
	10	10	Do. share warrants	16 6/16
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	38/-
	1		Pears, A. and F. ... ,,	30/7½
70,000	10	10	Pease and Partners ... ,,	13⅜ 13⅝
37,500	16	16	Price's Patent Candle ,,	33¼
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12½
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	71⅞
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	3/- 3/6
200,000	4	4	Salt Union ... ... ,,	18/3
100,000	6	6	Do. ... 7% n.c.p.	4⅝ 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1⅛ 1⅜
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	119½
45,000	10	10	Steiner, F. and Co. 5% c p.	9¼ 9⅜
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼ 6¾
289,343	10	10	United Alkali ... ord.	81/-
282,524	10	10	Do. ... 7% pref.	11⅜
80,000	1	1	United Indigo & Chemical ord	2/3 2/9
66,666	5	5	Willans and Robinson ,,	⅜ 1¼
210,000	1	1	Woolcombers ... 7% c.p.	19/9 20/-
112,202	4	4	Young's Paraffin ... ord.	72/6

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NEW YORK PRICES CURRENT.

Sept. 17, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 22
„ Oxalic	per lb.	0 8¼
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7½
„ „ „ Continental	„	0 7¼
Ammonia, Carbonate, lump	„	0 7½
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 6½
Potassium, Bichromate	„	0 8¼
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7¼
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

RUSSIAN CHEMICAL MARKETS.

THE chemical market report from Riga states that for the past month there has been a strengthening of the position of lemon salt, which, during the past three months, has made progress to the extent of 10 roubles (£1.) per pood, having risen to 50-52r. Besides the local and other causes peculiar to the season, the firmness of the markets abroad has also assisted in causing the advance. During the summer there has been a weakening in the position of Russian turpentine, which has lost value, and is quoted at 3r. to 3r. 10c., as against 3r. to 3r. 30-50c. Some of the principal quotations are:—Nitric acid (36° B.), 3r. 50c. to 4r.; borax crystals, 4r. 45-70c.; white lead, 4r. 80c. to 5r. 20c.; sulphate of copper, 6r. 75c. to 7r.; wood spirit (95-96%), 6r. 50c. to 7r.; superphosphates (13-14%), 52-56c.; acetic acid (30%), 2r.-2r. 50c.; bichromate of potash, 8r. 50-75c.

Suggested Technical and Commercial Library for Manchester.—On Wednesday week, an important deputation from the Manchester Chamber of Commerce waited upon the Free Libraries Committee to make representations in favour of a more generous provision of technical and commercial books and periodicals in the Free Reference Library of the city. Mr. E. H. Langdon, the President of the Chamber of Commerce, who introduced the deputation, said that they had the support of many societies interested in chemistry, electrical and general engineering, etc. Mr. Ivan Levinstein urged the Libraries Committee to establish a comprehensive technical library in Manchester; such a provision, he said, would be a valuable addition to the School of Technology. Dr. Hutton, of the Manchester University, supported the recommendation, and representatives of the Engineering and Chemical Sections of the Chamber also expressed their views.

Postal Changes.—On the 1st inst. the Post Office commenced the issue of reply-paid coupon stamps, at the price of 2½d. each, for the purpose of prepaying replies from any post office within the Postal Union. The addressee, on presenting the coupon, will receive in exchange a stamp of the value of 2½d. for the reply letter.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, September 17, 1907.

(Rate of Exchange, $4.855 = £1.)

Nitrate of soda is firmer, and shows more activity; spot parcels are quoted at $2.35. to $2.40. per 100 lbs., and futures $2.40. to $2.45. Sulphate of ammonia has declined somewhat, and more business is being reported at $3.02. to $3.05. per 100 lbs., for immediate delivery, with futures at about the same price. Grey muriate of ammonia is moving along rather slowly, and principally on contract; it is quoted to-day at 6c. per lb. White electrical sal ammoniac, 5¾c. to 6c. per lb., and lump, at 9¼c. Lump carbonate of ammonia rather dull, most of the deliveries being on contract; prices, however, are well maintained at 7⅝c. to 7⅞c. per lb. Bleaching powders are rather dull on spot, but contract deliveries are heavy; spot is quoted at $1.30. Sulphate of copper is weak, but on account of the unsettled condition of the metal, prices are ranging anywhere from 6¼c. to 7c. per lb. White powdered arsenic is firm; spot parcels in car-load lots are bringing 7⅛c., while immediate shipments from abroad are quoted at 7c. per lb. Red Saxony arsenic remains unchanged. Calcined carbonate of potash is rather scarce on spot, on account of heavy deliveries on contract, and prices therefore are well maintained at 4c. to 4½c. per lb. for the 80-85%, and 4¾c. to 5¼c. for the 96-98%; the hydrated is rather dull at present, and is quoted at 4¾c. to 5c. per lb. Caustic potash, although selling rather fairly on contract, has shown no improvement for spot orders; prices are about the same, 5¼c. to 5¾c. per lb. Chlorate of potash and soda are moving along briskly, chiefly on contracts, however, at prices ranging from 9¼c. to 9½c. per lb. for the potash, and 8¼c. per lb., f.o.b., works, in car-load lots, for the soda. Bichromate of potash is now quoted at 8¾c., and soda at 7¼c. per lb., both selling rather freely at these figures. Oxalic acid is weak; spot parcels are offered at 8¼c., with no sales reported.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols firm, and quotations are given at 9d. for 90's, and 9d. to 9¼d. for 50-90's. Crude tar, 15s. 6d. to 19s. 6d. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 26s. to 26s. 6d., f.o.b.; Gas Company, 29s.; East Coast, 25s. to 25s. 6d.; West Coast, 24s. 6d. to 25s. 6d. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10d. to 10½d.; pure, 1s. 2d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8½d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5½d.; 34-35, 5¼d. Cresylic, 95%, 1s. 1d. to 1s. 1½d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia steady. Nearest values are:—Beckton, October-December shipment, £12. 2s. 6d.; and January-April, £12. 5s.; Beckton terms, £11. 12s. 6d.; London, £11. 13s. 9d. to £11. 15s.; Hull, £11. 15s. to £11. 16s. 3d.; Liverpool, £11. 17s. 6d. to £11. 18s. 9d.; Manchester, £11. 15s.; Leith, £12. to £12. 2s. 6d., and January-April, £12. 5s.

Nitrate of soda, ordinary, 11s. 3d.; refined, 11s. 9d. Liverpool ordinary, 11s. 3d.; refined, 11s. 4½d. Official quotations:—Cargoes, off coast or due, 11s. 1½d.; ditto, for prompt shipment, 11s. 7½d.

FERTILISER MATERIALS.

Friday.

Steadiness in all markets for manure material is the prevailing feature, and generally there is rather a better demand.

Shippers of East Indian bone meal having declined bids of £4. 17s. 6d. per ton for good lines, have now advanced their price to £5. per ton, nett, c.i.f. terms Liverpool, but so far this

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price has not been reported as paid. On spot, quotations remain £5. 5s. to £5. 10s. per ton, according to quality, ex store.

Nitrate of soda is still a quiet market, but prices remain steady at 11s. 1½d. per cwt. for 95%, and 11s. 4½d. per cwt. for refined quality, ex store.

For mineral phosphates of the various grades, values remain very steady for all delivery positions.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £62. to £62. 5s. cash, and £62. to £62. 5s. three months. Tin: G.M. quality, £156. 10s. to £157. cash, and £154. 10s. to £155. three months; English, £158. to £160. Lead: Soft foreign, prompt, £21.; October shipment, £20. 10s.; November, £19. 12s. 6d.; December, £19. 5s.; English, £21. 10s. Spelter, ordinary brands, prompt, £21.; forward, £21. ex ship; hard, £18., f.o.b. Antimony, £43. to £45.; ore, £14. Bismuth, 6s. 6d. Quicksilver, £7. 7s. 6d.; seconds, £7. 6s. 6d. Nickel, 1s. 10d. per lb. Aluminium, £150. Wolfram, 40s. to 42s. 6d.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

There is a fairly steady and good demand for all descriptions of chemicals, and with the prospect of higher costs of manufacture, due to the advances in fuel and other materials, there is a general firmness in values, with advances quoted and paid in several descriptions for deliveries over 1908. Caustic soda has been advanced 10s. per ton for this and next year's delivery, which makes the price now for 70%, £10. 5s. per ton; 74%, £10. 15s., and 77%, £11. per ton, f.o.b. Liverpool. Bleaching powder stands at £4. 7s. 6d. to £4. 12s. 6d. per ton f.o.r. Alkali, 58%, is unchanged at £4. 10s. f.o.r., and the same price holds good for 1908. Saltcake, in bulk, is firm at 42s. 6d. per ton f.o.r Sulphate of copper stands at £23. to £23. 10s. per ton for next Spring delivery. Chlorates unchanged at 3½d. per lb. Grey acetate of lime is steady, both prompt and future delivery, at £12. 10s. c.i.f. Acetate of soda rather dearer at £17. 10s. Brown sugar of lead, £26. 10s. Caustic potash, 88-90%, £24. 10s. c.i.f. Manchester: Carbonate of potash, 90%, £18. 10s. There is continued good demand for muriate of ammonia at £24. 10s. Prussiates are steady at 3⅝d. to 5⅝d. per lb.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil firm, sales including Benin at £27. 15s. for November-December shipment, and Lagos, £30. 10s. to £31. per ton. Linseed oil quiet at 26s. 3d. to 27s., for Liverpool makes in export casks. Cottonseed oil steady at 28s. 6d. to 29s. for Liverpool refined in export barrels. Rosin in good demand. Tallow quiet, at 31s. for South American beef, and 31s. 6d., c.i.f., for South American mutton. Petroleum quiet, at 6¾d. for Russian and Roumanian, and 7¼d. to 8¼d. for American refined oils. Petroleum spirit in fair demand, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s., white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; venetian red, lump, 7s. 6d., powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d., China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d. per lb., Brunswick, 28s. to 34s. per cwt.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes and pearl ash nominal. Bark steady. Logwood and fustic quiet at recent quotations. Castor oil steadily held at 3½d. for first pressure French; 3¼d. for second pressure French; 3½d. for good seconds Calcutta, and 3⅜d. for Calcutta shipment on to January next. Cutch steady. Gambier firm, at 29s. 6d. to 30s., for store lots of cubes; 28s. 1½d. for September-October and October-November shipment; 28s. 3d. for November-December; block quiet at 21s. 6d. Glucose: American liquid, 43%, 12s. 6d. and 12s. for October-December shipment. American powdered starch, 10s. 9d. on spot, and 10s. 3d., c.i.f., for shipment; pearl, 10s. 3d. on spot, and 9s. 9d., c.i.f., for shipment. Shellac quiet at 155s. for fair T.N. orange on spot. Cream of tartar, 98% foreign powder, 81s.; 98%, 79s. Citric acid: English, 1s. 10d.; foreign, 1s. 9¾d. Tartaric acid: English, 11d. to 11¼d., on spot; foreign, 10¾d. to 10⅞d.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—Linseed oil on the week has not maintained its strong position, and closes lower and quieter; the shipments of seed from America have been heavy, and the arrivals here have been fair, and the general promise of supplies all round are good, excepting from Russia. Imports here for the week were:—10,654 qrs., making a total of 594,992 qrs., against 457,220 qrs. last year. Of cottonseed the imports were 4,603 tons; total since January 1st, 271,460 tons, against 218,830 tons last year. Other imports have been to date:—Wheat 3,150,546 qrs., against 3,055,603 qrs.; flour 157,397 cwts., against 280,610 cwts.; rapeseed 89,459 qrs., against 86,174 qrs.; oilcake 20,150 tons, against 31,459 tons; hemp 100,144 cwts., against 124,350 cwts.; olive oil 3,554 tuns, against 3,077 tuns; tar 7,468 brls., against 10,514 brls. Amongst the weekly imports are:—Lard, 2,089 cwts.; margarine 4,550 cwts.; sugar, 16,534 cwts.; glucose, 1,173 cwts.; colours, 2,032 pkgs.; hides, 540 cwts.; wool, 150,776. Exports:—Oil, 10,019 cwts.; colours, 1,934 pkgs.; chemicals, 2,314 pkgs. Linseed oil closes easy; naked, spot, 24s.; October-December, 22s. 9d.; January-April, 23s.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—10 tons Austria, 2 Belgium, 1 Denmark, 5 Norway, 6 Turkey; total, 24 tons. Linseed: La Plata, spot, 43s. 9d.; September-October, 44s.; October-November, 44s. 1½d.; December-January sold at 42s.; January-February is 41s. 9d. Refined cottonseed oil, after improving considerably, closes easier; naked, spot, 26s. 9d.; October, 25s. 5d.; November-April, 23s. 1½d.; casks £1., and barrels £1. 7s. 6d. per ton extra. Exports during the week:—6 tons Denmark, 20 France, 44 Germany, 36 Holland, 7 Italy, 128 Sweden; total, 240 tons. Cottonseed easier; spot, £7. 15s. to £7. 16s. 3d., ex store; September, new seed sold at £7. 10s.; October, £7. 13s.; November-January, £7. accepted; Bombay, September-October, £6. Rapeseed, Jamba, 42s. 6d., November-December. Turpentine firm; spot, 39s. 6d.; November-December, 40s. 6d.; January-April, 41s. 6d.; May-June, 40s. 3d. Russian ditto, 20s. 3d. spot. Assyrian, 16s. Olive oil, Levant, £39. to £40. per tun. Castor oil, November-December, 1sts, 30s. 6d.; 2nds, 29s. 6d.; January-March, 6d. per cwt. less.

TYNE CHEMICAL REPORT.

THURSDAY.

Market steady, the chief feature being the advance of 10s. per ton in the price of caustic soda for prompt and forward delivery, manufacturers no doubt feel the effect of the high prices now current for coals and other raw materials. Quotations now are: 76-77%, £11.; and 70%, £10. 5s. per ton. Bleaching powder quiet at £5. 5s. per ton. Soda crystals in fair demand at £3. to £3. 2s. 6d. per ton gross weights. Sulphur scarce at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £10. 10s. per ton, nett; do., 70%, £9. 15s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Continue fairly steady, and with a good arrival of steamers, business has been somewhat brisker. Bunker coals are plentiful and a shade easier in price. Coke is quiet. To-day's quotations:—Best Northumbrian steam, 15s. 9d. to 16s. 3d. per ton; second qualities, 15s. per ton; small steam coals, 10s. 6d. to 11s. per ton; unscreened coals, 13s. 3d. per ton; best gas coals, 16s. to 17s. per ton; Durham bunkers, 13s. to 14s. per ton; best coking coals, 15s.; household coals, 16s. 6d. to 17s. 6d. per ton; foundry coke, 25s. per ton; gas coke, 20s. per ton.

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WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The spot position for sulphate of ammonia, Leith and Glasgow deliveries, remains practically unchanged, value being about the same, and movement but moderate as before. With regard to forward business, there is nothing on report as having been carried through; the disposition to buy is rather more evident, but sellers are in the mood to hold off a little. Sulphate of copper continues in a constantly shifting condition, with large reductions as the rule, following the uneasiness of the metal. In the section of the ordinary chemicals, the chief feature is the advance in all strengths of caustic soda. The other lines are as before, steady of movement, at current rates. Business in mineral oils and paraffins, home makes, continues very good, at same figures, with the exception of 865°, lubricant, which is scarce and dearer.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¾d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 15s. to £6.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 5¾d. to 5⅞d. nett, f.a.s. Glasgow; salammoniac, first and second white, £42 and £40., less 2½% any port; saltcake, 40s.; to 42s. 6d. soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £22 10., , to £23 less 5% Liverpool, prompt.

New Companies.

Artificial Diamond Co., Ltd.—Capital, £10,000., in £1. shares. This company has been formed to take over and amalgamate the businesses of imitation diamond merchants carried on in Great Britain and various towns in Europe and Asia by Messrs. Goldsoll, Kaplan and I. and W. Blumenthal, and to adopt an agreement with F. J. Goldsoll and others. No initial public issue. The first directors are F. J. Goldsoll (chairman), N. S. Kaplan and W. Blumenthal (all permanent). The two last-named are managing directors. Qualification, £100. shares or stock. Registered office, 96, Oxford-street, W.

Brundholme Mining Syndicate, Ltd.—Capital £1,000., in £1. shares. This syndicate has been formed to acquire any mines, mining rights and metalliferous land in Cumberland or elsewhere, to enter into an agreement or "take note" with W. T. Crosse, for leave to search for lead ore, blende, copper ore and other minerals in and under certain lands, etc. No initial public issue. The first directors are J. W. Pattinson, J. S. Quirk, W. H. Borlase, Dr. R. J. Hutchinson, J.P., and J. Kidd. Qualification, £50.

Cleanall, Ltd.—Capital £1,000., in £1. shares. This company has been formed to adopt an agreement with V. Talbot, and to carry on the business of manufacturers of soap and other cleansing materials, etc. No initial public issue. The first directors are V. Talbot and G. Talbot. Registered office, 17, St. Christopher-place, Wigmore-street, W.

Nicotine Extraction Syndicate, Ltd.—Capital £5,000., in 4,900 ordinary shares of £1. each, and 2,000 deferred shares of 1s. each. This syndicate has been formed to acquire, sell, and exploit patents for the extraction of nicotine from tobacco. No initial public issue. Registered office, 8, Old Jewry, E.C.

Karak Rubber Co., Ltd.—Capital £50,000. in £1. shares. This company has been formed to acquire lands or other immovable property in the Malay Peninsular, India, Ceylon, the East Indies, or adjacent parts of Asia, to grow, treat, cure, manufacture, prepare for market, and deal in indiarubber, guttapercha, balata and other gums and natural products of any kind, etc. Minimum cash subscription, 10% of the shares offered to the public. The first directors are A. Bethune, F. W. Barber, R. K. Magor and C. T. Sidgwick. Qualification, one share. Remuneration, £50. each per annum and 5% of the profits available for distribution, divided. Registered office, 138, Leadenhall-street, E.C.

Kalsite, Ltd.—Capital £10,000., in £1. shares. This company has been formed to adopt an agreement with the International Finance and Development Corporation, Ltd., for the acquisition of an invention and patent rights, relating to a building composition, and to carry on the business of manufacturers of and dealers and workers in cement, lime, gypsum, plaster, whiting, clay, gravel, sand, artificial stone and builders' requisites, etc. No initial public issue. The subscribers are to appoint the first directors. Qualification, any shares or stock. Remuneration, £100. each per annum (chairman, £150.) Registered office, 15, George-street, Mansion House, E.C.

Lilita Nitrate Co., Ltd.—Capital £100,000., in £1. shares. This company has been formed to acquire the lands and nitrate grounds in the Department of Taltal, Chili, known as Terrenos Lily, and to adopt an agreement with the Nitrate Securities Trust, Ltd. Minimum cash subscription, 2,000 shares. The first directors are F. F. C. Herzog, C. H. Williams, A. C. Lowe and A. F. B. James. Qualification, £250. Remuneration, £250. each per annum (chairman, £350.) Registered office, 10, Lime-street, E.C.

Pacific Oilfields, Ltd—Capital £250,000., in £1. shares. This company has been formed to acquire about 5,876 acres of land in the Counties of Santa Barbara and San Luis, Obispo, California, and to adopt an agreement with the Balfour-Guthrie Investment Co. (incorporated in California), and to carry on the business of producers, refiners, storers, suppliers and distributors of petroleum and its products, etc. Minimum cash subscription, 10% of the shares offered to the public. The first directors are R. B. Forman, A. B. Williamson, T. Royden, C. H. Moore and W. Mackenzie. Qualification, £1,000. Remuneration, £200. each per annum (£100. extra for the chairman). Registered by Rawle, Johnstone and Co., 1, Bedford Row, W.C.

Risicol, Ltd.—Capital £10,000., in £1. shares (4,000 preference). This company has been formed to carry on the business of importers and manufacturers of and dealers in pharmaceutical, medicinal, chemical, industrial and other preparations, compounds, cements, oils, paints, varnishes, drugs, acids, powders, proprietary articles, etc., and to adopt an agreement with R. Demuth. No initial public issue. The first directors are W. E. Whineray, H. C. Forrest, F. Goswin, and R. Dumuth. Qualification, £100.

S. Kenyon, Ltd.—Capital, £3,000., in £1. shares (2,000 preference). This company has been formed to take over the business of an oil and varnish manufacturer, formerly carried on by S. Kenyon, of 10, Winwick-street, Warrington. No initial public issue. Registered without articles of association. H. Hutcheson is the first director. Registered office, 10, Winwick-street, Warrington.

Solidite Fire Proofing Co., Ltd.—Capital £10,000., in 8,000 ordinary shares of £1. each, and 40,000 deferred shares of 1s. each. This company has been formed to acquire and turn to account patents and inventions for the construction of fireproof and other floorings, walls and ceilings, etc. No initial public issue. Table "A" mainly applies. Qualification, 100 deferred shares. Registered office, 199, Piccadilly, W.

Washall-Millene Co., Ltd.—Capital £3,000., in £1. shares. This company has been formed to take over the business of soap manufacturers and merchants, carried on at Farnley, Leeds, as W. M. Turner and Co., Ltd., and the Venera Soap Co., and to adopt an agreement with J. T. Oldfield and G. F. Oldfield. No initial public issue. The first directors are G. F. Oldfield and J. T. Oldfield. Qualification, £250. Registered office, Farnley, Leeds.

William Jackson, Ltd.—Capital £8,000., in £1. shares (4,000 preference.) This company has been formed to acquire the business of a boiler composition and chemical manufacturer, oil and grease manufacturer and general mill's store supplier carried on by Sarah Jackson, as William Jackson, at Mossfield Chemical Works, 45, Mere-lane, Rochdale. No initial public issue. The first directors are W. Jackson, J. Townend and A. Duxbury. Qualification 200 shares. Remuneration not less than £10. each per annum.

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IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 21.

Acetic Acid—
Holland, 21 cbys. R. W. Greeff & Co.
,, 25 blns. W. H. Muller & Co.
Germany, 16 cbys. H. W. Brummerstaedt

Acetone—
Germany, £750 Nobel's Explosives Co.

Aluminium Sulphate—
Holland, £485 Ohlenschlager Bros.

Ammonium Muriate—
Holland, £54 A. & M. Zimmermann

Ammonium Phosphate—
Belgium, £143 A. Kempen

Antimony Ore—
Germany, 7 t. Quirk, Barton & Co.

Argols—
Spain, 50 cks. Thames S. T. & L. Co.
Italy, 541 bgs. P. Jacob & Son
,, 7 cks. J. Magnuss

Arsenic—
Portugal, £650 W. & S. Bowditch
,, 295 Lawes Chem. Co.
France, 112 J. Owen

Asbestos—
Italy, 13 t. 4 c. Cape Asbestos Co.
France, 2 3 ,,

Barytes—
Holland, 24 cks. O. Lechla
,, 44 W. Harrison & Co.
,, 32 A. Zumbeck & Co.
,, 30 J. Greig
,, 250 Felton & Crepin
Belgium, 20 O'Hara & Hoare
,, 53 Felton & Crepin
,, 300 bgs. ,,
,, 200 F. Robertson
Germany, 10 cks. Henderson, Craig & Co.
,, 101 Elkan & Co.
,, 152 cs. W. Harrison & Co.
,, 160 bgs. Felton & Crepin

Bog Ore—
Holland, 123 t. Van Dam & Co.

Bone Meal—
Belgium, a qty. Hollingshurst & Co.

Boracic Acid—
Italy, 7 brls. Nicholson's Wvs.

Bromine—
Germany, 37 cs. L. & I. D. Jt. Co.

Calcium Carbide—
Norway, 4 t. M. Dk. Co.
Sweden, 20 Union Salt Co.

Camphor—
France, 47 cs. R. Warner & Co.
,, £2,515 W. H. Smith & Son

Caoutchouc—
Aden, 9 c. L. & I. D. Jt. Co.
Straits, 2 t. 5 Props. Bull Wf.
,, 8 9 Prop. Hay's Wf.
,, 18 L. & I. D. Jt. Co.
,, 4 S. Figgis & Co.
,, 2 15 Weber, Hoare & Smith
,, 17 Lewis & Peat
Holland, 2 Prop. Hay's Wf.
,, 1
Egypt, 2 Kleinwort, Sons & Co.
U.S.A., 1 2 Drolenvaux & Bremner

Caoutchouc—
Ceylon, 11 t. 10 c. Props. Bull Wf.
,, 1 16 Prop. Hay's Wf.
,, 15 M. P. Evans
,, 13 L. & I. D. Jt. Co.
,, 2 Bremner & Laycock
France, 8 5 S. Figgis & Co.
,, 4 12 L. & I. D. Jt. Co.
,, 2 5 Props. Bull Wf.
,, 17 France, Fenwick & Co.
Germany, 8 11 Clarke & Smith
,, 10 Dalton & Young
,, 5 4 Props. Bull Wf.
,, 5 Wallace Bros
,, 1 7 Baxter, Hoare & Co.
,, 6 Craven & Co.
Siam, 4 Major & Field

Carbonic Acid Gas—
Holland, £967 W. H. Muller

Castor Oil—
France, 10 brls. Weber, Smith & Hoare

Caustic Potash—
Germany, 47 dms. J. N. Steel
France, 33 J. Barber & Co.
Belgium, 8 Petri Bros.

Caustic Soda—
Germany, 50 t. J. Barber & Co.

Chemicals (*otherwise undescribed*)
France, £12 H. Johnson, Son & Co.
,, 25 Hill & Jones
,, 12 J. Harrison
,, 100 W. Smith
,, 6 Mory & Co.
Holland, 202 W. Smith
,, 550 W. H. Muller
,, 6 T. H. Lee
,, 20 J. Barber & Co.
,, 9 A. & M. Zimmermann
Germany, 189 T. H. Lee
,, 21 L. & I. D. Jt. Co.
,, 223 A. & M. Zimmermann
,, 42 Argo S.S. Co.
,, 60 Fuerst Bros.
,, 11 Prop. Hay's Wf.
Belgium, 166 J. Cockerill Line
,, 5 T. H. Lee
Morocco, 5 Davis, Turner & Co.

Citrate of Lime—
Dominica, £376 L. Rose & Co.

Coal Products—
Antime
Belgium, 6 cks. 2 cs. 32 pks. John Cockerill Line
Germany, 32 8 L. & I. D. 6 cks. Jt. Co.
Carbolic Acid
Holland, 100 cks. J. Owen
Pitch
France, 114 cks. Hill & Sons
Germany, 50 bgs. T. H. Lee
N. Russia, 400 brls. Fellows, Morton & Co.
Tar
Sweden, 50 brls. Lieck, Moeller & Co.
Tar Salt
Germany, £60 Craven & Co.

Copper Ore—
N.S.W., 20 t. J. W. Cook & Co.
Queensland, 74 H. Bath & Son

Cottonseed Oil—
U.S.A., 200 brls. Prop. Hay's Wf.

Cream of Tartar—
France, 20 kgs. W. C. Bacon
,, 20 cks. ,,
Holland, 8 T. H. Lee
,, 4 Kirkpatrick, Barr & Co.

Dyestuffs—
Bark Extract
France, 147 cks. S. Burrows & Co.
Cochineal
Canary Is., 9 bgs. L. & I. D. Jt. Co.
Gambier
Straits, 267 pks. S. Barrow & Co.
,, 264 bls. Leach & Co.
,, 258 G. R. Haller
,, 259 bgs. F. Claydon & Co.
,, 86 E. J. Winser & Co.
Indigo
E. Indies, 10 brls. Hands & Angel
Myrabolans
E. Indies, 2,225 bgs. E. J. Winser & Co.
,, 340 Hoare, Wilson & Co.
,, 200 France, Fenwick & Co.
,, 308 Hoare, Wilson & Co.
,, 2,686 pkts. J. W. Cook & Co.
Saffron
Spain, 1 cs. H. J. Rubeck
Sumac
Italy, 500 bgs. J. Kitchin
,, 40 Union Ltge. Co.
,, 900 New Sun N. Wvs.
Tanners' Bark
Belgium, 23 t. Juett & Cain
Victoria, 51 Boutcher, Mortimore & Co.
Tannin Extract
Arg. Rep., 396 bgs. Humphery, Percival, Elliott
Aust. Hung., 104 brls. Boutcher, Mortimore & Co.
Turmeric
E. Indies, 5 bgs. Perkins & Homer

Farina—
Belgium, a qty. Leach & Co.
Holland, 33 J. Barber & Co.
,, 1 10 c. Van Dam & Co.
,, 19 14 F. M. Duche
,, 10 Bennett's Ltge. Co.

Formaldehyde—
Holland, £42 R. W. Greeff & Co.

Gas Oil—
U.S.A., 701,431 gals. Anglo-Am. Oil Co.

Gelatine—
France, £22 Mory & Co.
Belgium, 67 J. Cockerill Line
,, 44 L. & I. D. Jt. Co.

Glanz Gold—
Belgium, £110 Prop. Hay's Wf.

Glue—
U.S.A., £280 Anglo-American Oil Co.
Belgium, 30 D. C. Thomas & Son
,, 27 J. Cockerill Line
Germany, 46 Prop. Hay's Wf.
,, 215 Ldn. & Rhine S. Office
Aust. Hung., 205 Steinhoff & Co.
Belgium, 12 J. R. Grant
,, 92 Leach & Co.
A. Hung., 900 P. Leiner & Son
U.S.A., 120 W. Davis
France, 87 J. Harrison
Holland, 241 Van Dam & Co.
France, 295 Bennett & Co.
Belgium, 130 T. M. Duche & Son
,, 34 Leach & Co.
Germany, 134 Craven & Co.
,, 300 Leiner & Son
Holland, 11 W. H. Muller & Co.
France, 111 Mory & Co.

Glue Stock—
Queensland, 9 t. 19 c. Appleby & Cobb
Tasmania, 1 6 Flack, Chandler & Co.
France, 5 Barr, Noering & Co.

Glycerine—
Germany, £273 Prop. Hay's Wf.
,, 90 J. Barber & Co.
Holland, 193 Fuerst Bros.
N.S.W., 190 H. Hill & Son

Gutta Percha—
Germany, 6 t. 7 c. Huttenbach & Co.
,, 3 Argo S.S. Co.
,, 13 Prop. Hay's Wf.

Iodine—
Germany, £850 L. & I. D. Jt. Co.

Iron Bromide—
Germany, £78 Drolenvaux & Co.

Kainit—
Germany, 206 t. Odams & Co.

Lead Nitrate—
Italy, £99 Nicholson's Wvs.
,, 85 H. Johnson

Lead Ore—
P.E. Africa, 5 t. Page, Son & East

Linseed Oil—
Holland, 1 brl. W. H. Muller & Co.

Lithopone—
Belgium, 37 cks. J. F. Lauderdale
,, 20 brls. J. Harrison & Co.
France, 80 cks. J. L. Lyon & Co.

Magnesite—
Holland, £20 W. Deinz
,, 36 W. H. Muller & Co.
E. Indies, 60 Rock Mfg. Co.
Holland, 10 Fuerst Bros.

Magnesium—
Holland, £121 J. Barber & Co.

Manganese—
Holland, £243 J. Barber & Co.

Manganesite—
Germany, £74 Argo S.S. Co.

Manure—
Norway, 1 t. F. Dessen & Co.
Germany, 49 Hollinghurst & Co.

Olive Oil—
Italy, 20 gals. J. Copp & Co.
Germany, 10 cks. Lucas & Spencer's Wf.
France, 2 t. 126 gals. P. Newton & Co.
,, 10 Stockwell & Co.
Holland, 60
France, 13 cks. F. Boehm
,, 207 ,,
,, 252 Litchfield & Soundy
Italy, 2 t. 63 L. & I. D. Jt. Co.
France, 56 C. Watts
,, 13 Stockwell & Co.
,, 70 B. & F. Wf. Co.
,, 1 168 Gill & Duffus

Oxalic Acid—
Germany, 13 cks. Petri Bros.
Holland, 5 ,,

Paraffin Scale—
U.S.A., 247 t. 16 c. Anglo-American Oil Co.
,, 27 10 H. Hill & Son

Paraffin Wax—
U.S.A., 57 t. 18 c. Mercantile Ltge. Co.
,, 28 2 Mordaunt Bros.
Germany, 2 T. H. Lee
Holland, 3 Wilkins, Campbell & Co.
,, 3 8 Phillips & Graves

Phosphate of Lime—
France, 135 t. Hunter, Lomer & Fraser

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Plumbago—
Italy, 120 brls. Thredder, Sons & Co.
Ceylon, 123 ,,
,, 77 Branwell & Co.
Ceylon, 63 bls. Reckitt & Son
,, 38 Branwell & Co.
,, 272 G. R. Haller
Germany, 60 cks. B. Gallaway
,, 41 Claydon & Co.
,, 41 Craven & Co.

Potassium Bicarboante—
Holland 9 cks. A. & M. Zimmermann

Potassium Carbonate—
Canada, 12 brls. Charles & Fox
Germany, 31 cks. L. & I. D. Jt. Co.
,, 6 J. N. Steel & Co.

Potassium Chlorate—
France, 109 kgs O. Murray & Co.

Potassium Iodide—
Japan, £800 L. & I. D. Jt. Co.
,, 750 R. Green

Potassium Permanganate—
Germany, 100 kgs. Craven & Co.
,, 40 R. W. Greeff&Co.

Potassium Prussiate—
Holland, 5 cks. J. Owen

Potassium Sulphate—
Germany, 1,000 bgs. F. W. Berk & Co.

Pyrogallic Acid—
Holland, 2 cs. W. H. Muller & Co.

Quicksilver—
France, 15,600 lb. L. & I. D. Jt. Co.

Red Lead—
Germany, 97 cks. Randall Bros.
France, 40 brls. J. Watt & Son
Holland, 32 pks. F. Nye
,, 16 Van, Dam & Co.
,, 9 cks. F. T. H. Nye
,, 8 W. H. Muller & Co.

Ripolin—
Holland, 70 cs. Phillipps & Graves

Rosin—
Spain, 90 brls. Phillipps & Graves
Holland, 32 pks. Van, Dam & Co.
Belgium, 34 Moore & Hole
France, 120 Watt & Son

Saltpetre—
Germany, 70 t. P. Hecker
E. Indies, 154 16 c. Lucas & Spencer's Wf.

Silver Ore—
U.S.A., £960 B. Ackerley & Son

Soap—
France, £52 Beresford & Co.
,, 115 cks. Lucas & Spencer's Wf.
,, £142 Pronk, Davis & Co.
,, 429 Vokin & Co.
Germany, 21 L. & I. D. Jt. Co.
,, 15 Hertz & Co.
U.S.A., 200 American Ex. Co.
,, 10 F. Till
,, 620 W. Davis
,, 516 Merten & Co.
,, 1,650 Armour & Co.
,, 98 Field & Co.
Holland, 21 W. H. Muller & Co.

Soap Powder—
Holland, £17 Muller & Co.

Soda—
Holland, 8 t. 10 c. J. N. Steel & Co.
Germany, 1 T. H. Lee
,, 51 A. & M. Zimmermann
Holland, 1 ,,
Germany, 5 T. H. Lee

Soda Crystals—
Holland, 2 t. 10 c. W. H. Muller & Co.

Sodium Acetate—
France, 9 t. J. Harrison
Belgium, 10 P. F. Knowlden

Sodium Bicarbonate—
Holland, 5 c. T. H. Lee

Starch—
France, 6 t. A. C. Hitchcock
,, 10 15 c. E. T. Pink

Starch—
Holland, 21 t. J. Barber & Co.
,, 3 6 c. W. H. Muller & Co.
,, 11 5 Stark & Co.
,, 33 Little & Johnston
Aust. Hung., 3 10 J. W. Sheldon & Co.
Belgium, 10 Bryce & Rumpff
,, 3 1 Leach & Co.
,, 3 10 G. N. Sheldon & Co.
U.S.A., 14 T. L. Field
,, 1 L. & I. D. Jt. Co.

Stearine—
Belgium, 63 bgs. Meyerstein & Co.
,, 5 G. Jennings
France, 100 Bell & Co.

Sulphur—
Italy, 18 t. Spark, White & Co.
Belgium, 18 c. Jessop & Co.
Italy, 11 1 G. Boor & Co.
,, 14 18 F.C.Symons & Co.
,, 4 4 Greenmore Wf.
,, 43 3 Vokins & Co.

Sulphur Chloride—
Germany, Typke & King

Tallow—
N.S.W., 34 cks. Anning & Cobb
,, 146 Goad, Rigg & Co.
,, 150 A. J. Humpher
,, 77 pks. ,,
,, 44 cks. Cuthbert & Hall
,, 271 Phillipps & Graves
,, 6 J. Greig
,, 84 Thornett & Fehr
,, 49 Colchester & Woolner
,, 19 H. Hill & Son
,, 58 Dalgety & Co.
Queensland, 36 J. Greig
,, 294 Goad, Rigg & Co.
,, 151 Anning & Cobb
,, 115 E. L. Annoot
,, 150 Goad, Rigg & Co.
N. Zealand, 102 L. & I. D. Jt. Co.
,, 13 Union Ltge. Co.
,, 204 J. Owen
,, 25 New Sun & Vane
,, 79 Leach & Co.
,, 3 N.Z. L. & M. Bk.
Arg. Rep., 238 Phillipps & Graves
,, 40 J. Owen
China, 156 Jacob & Son
U.S.A., 2 c. Const. Co.
,, 70 Lane & Co.
Germany, 14 Anning & Cobb
Victoria, 58 Mordaunt Bros.
Falkland Is., 95 Knight Bros.
Holland, 41 Flack Chandler & Co.

Tannic Acid—
Germany, 10 cks. L. & I. D. Jt. Co.
Holland, 2 cs. W. H. Muller & Co.

Tartar—
Italy £600 B. Jacob & Co.

Tartaric Acid—
Holland, 5 kgs. Kirkpatrick, Barr & Co.
,, 40 cks. B. & F. Wf. Co.
Italy, 36 20 kgs. ,,

Tin Ore—
Spain, 16 t. Props. Bull Wf.
,, 7 Hoare, Wilson & Co.
Victoria, 9 Butler's Wf., Ld.

Turpentine—
N. Russia 5 brls. M. Dk. Co.
Germany, 13 cks. Blumannstein

Ultramarine—
Belgium, 4 cks. O. Lechla
Holland, 8 13 cs. W. H.
,, 3 pks. Muller & Co.
,, 5 cs. A. G. Soutter
,, 1 ck. A. Foley & Co.
Germany, 15 cs. Argo S.S. Co.
Holland, 4 cks. Hodson & Co.
,, 4 pks. J. D. Budd
Germany, 37 J. Harrison

Wax—
Morocco, 108 pks. Forwood Bros. & Co.

Wax—
Spain, 14 bls. Lewis & Peat
,, 11 pks. T. H. Lee
Burmah, 22 Eastwood & Holt
Germany, 57 cs. 41 bls. T. H.
,, 40 bgs. Lee
,, 95 pks. ,,
,, 12 bgs. 2 cs. L. & I. D. Jt. Co.
,, 21 Ldn. & Rhine S. Office
,, 185 t. Wallace Bros.
,, 8 pks. Figgis & Co.
France, 2 cks. ,,
,, 6 mts ,,
E. Indies, 7 cs. Lewis & Peat
U.S.A., 11 brls. Taylor & Co.
Egypt, 2 cs. Kleinwort, Sons & Co.

White Lead—
Belgium, 37 cks. J. L. Lyon & Co.
,, 74 F. & W. Farmiloe
Germany, 8 Taylor Bros.
Holland, 47 A. & M. Zimmermann
,, 8 pks. Van, Dam & Co.
Germany, 55 cks. Spies, Bros. & Co.
Holland, 70 Steinhoff, Sons & Co.

Wolfram Ore—
Spain, 26 t. Hoare, Wilson & Co.

Zinc Ashes—
N.S.W., 14 t. J. W. Cook & Co.

Zinc Ore—
P. E. Africa, 1 t. Page, Son & East

Zinc Oxide—
Holland, 100 brls. M. Ashby
,, 70 cks. ,,
Germany, 50 ,,
,, 10 R. W. Greeff & Co.
Holland, 100 Vokins & Co.
U.S.A., 300 brls. M. Ashby

Zinc White—
Germany, 25 cks. M. Dk. Co.
,, 125 Spies, Bros. & Co.
,, 15 Weber, Smith & Hoare
Holland, 25 W. H. Muller & Co.

LIVERPOOL.

Week ending September 19.

Albumen—
Hamburg, 5 pks.
Havre, 3 cs.

Alkali—
Hamburg, 8 cks.

Aluminium—
Quebec, 600 bxs. B. & D. Aluminium Co.
Havre, 24 bgs. Cunard S.S. Co.

Antimony Salt—
Rouen, 1 ck.

Asbestos—
Quebec, 300 bgs.

Barium Sulphate—
Antwerp, 65 cks.

Bones—
Alexandria, 660 bxs.

Castor Oil—
Leghorn, 25 cs.

Chalk—
Rouen, 2 cs.

Chemicals (*otherwise undescribed*)
Bordeaux, 20 cks. R. J. Francis
Rouen, 2 Co-op. W'sale Soc.

Ceresine—
Hamburg, 5 brls. 25 bgs.

Coal Products—
Pitch
Hamburg, 5 bgs.

Colours—
Bremen, 10 cks.
New York, 3 pks.
Rouen, 50

Copper Ore—
Valparaiso, 414 sks. Vivian & Son
,, 120

Copper Ore—
Drontheim, 2,000 t.
H. Kong, 107 bgs.
Singapore, 2,610

Copper Sulphate—
Amsterdam, 10 brls.

Cream of Tartar—
Bordeaux, 102 cks.

Dyestuffs—
Chestnut Extract
Leghorn, 150 brls.
Dyewood Extract
Philadelphia, 105 brls.
Fustic
Constanti'ple, 29 t.
Logwood Extract
New York, 58 cks. Royal Mail S. P. Co.
Sumac
Palermo, 225 bgs.
Alexandria, 753
Tannin Extract
Bayonne, 200 cks. R. J. Francis
Bordeaux, 1,181
Valonia
Syra, 570 bgs.

Fish Oil—
Yokohama, 1,400 cs.

Gas Oil—
Philadelphia, 809,904 gals. Anglo American Oil Co.

Glucose—
New York, 60 brls. Corn Prod. Co.

Glue—
Philadelphia, 33 brls. Anglo-Am. Oil Co.

Infusorial Earth—
Hamburg, 11 bgs.

Lactic Acid—
Rotterdam, 10 cks.

Magnesite—
Timaru, 1,772 bgs. 1,875 t.

Magnesium Carbonate—
Rouen, 2 cs.

Manganese Ore—
Bombay, 1,500 t.

Manganese Silico—
Bordeaux, 22 cks.

Mineral White—
Bordeaux, 100 bgs. R. J. Francis

Olive Oil—
Genoa, 50 cs.

Oxalic Acid—
Hamburg, 13 cks.

Paraffin Scale—
New York, 400 brls. Anglo-Am. Oil Co.

Paraffin Wax—
Calcutta, 133 bgs.
Amsterdam, 510

Phosphates—
Ghent, 1,200 bgs.

Potash—
Hamburg, 46 cks. 20 dms.

Potash Salt—
Bremen, 1 ck.

Pyrites—
Huelva, 3,467 t. Matthiessen & Co.

Red Lead—
Rotterdam, 53 cks.

Rosin—
Bordeaux, 630 cks.

Rubber—
Addah, 6 pks. Rodatz & Co.
Boston, 235 cs. American Express Co.
,, 105 Davies, Turner & Co.
,, 18 Downing & Co.
Valparaiso, 50 bls. Schoder & Co.
,, 39 Barber & Co.
Hamburg, 294 bgs. Brown, Geveke & Co.
Bordeaux, 5
Batu, 4 cks. Hatton & Cookson
Rio del Rey, 2 Woodin & Co.
Calabar, 3 Miller, Bros. & Co.
Assini, 5 Cie Francaise de Kong
,, 3 Dunlop Tdg. Co.
Cape Coast, 2 Russell & Co.
Sekondi, 1 ,,

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Rubber—
Monrovia, 1 pk. Liberian Rubber Co.
Dakar, 14 cks.
" 22 Comp. Francaise
" 10 Stürken & Co.
Winnebah, 2 Fischer & Co.
" 2 African Assoc
" 6 Miller, Bros.&Co.
H. Assini, 5 Millers, Ld.
" 1
Assini, 3 M. B. Wilson
Sassandra, 10 Woodin & Co.
" 14 R. & W. King
" 10 Lambert & Kilvert
" 10 Cie Francaise & Co.
" 4 Rider, Son & Andrew

Saltpetre—
Hamburg, 20 kgs.

Salt (Waste)—
Hamburg, 100 t. / 750 bgs. / 125 cks.

Silver Ore—
Valparaiso, 30 sks.

Silver Sulphide—
Colon, 3 cs.

Soap—
Naples, 56 cs.
Kingston, 1,917 bgs.
Syra, 10

Soap Stock—
Boston, 186 brls.

Soapstone—
Genoa, 25 bgs. W. Somerville & Sons
" 200

Soda—
Genoa, 82 cks. W. M. Whittingham

Starch—
Bremen, 120 cs.
Ghent, 64 J. T. Fletcher & Co.
Rotterdam, 223

Stearine—
Antwerp, 38 bgs. J. T. Fletcher & Co.

Sulphur—
Catania, 740 pks.

Tallow—
New York, 50 trcs.
Sydney, 44 cks. Bank of N. S. Wales
" 131 Co-op. W'sale Soc.
Rouen, 38 bgs. "
Philadelphia, 45 trcs.
Boston, 75 H. A. Lane & Co
Gothenburg, 34 cks. H. E. Cox & Co.
Tacoma, 330 trcs. 100 rls.

Tartaric Acid—
Bordeaux, 4 cks.
Rotterdam, 8

Turpentine—
N. Orleans, 10 cs.

Wax—
Philadelphia, 100 brls.
New York, 1,230
Bathurst, 9 bdls.
Patani, 13 bgs. A. Cros & Co.
" 53 Comp. Francaise
Hamburg, 55 brls.

White Lead—
Rotterdam, 150 cks.

Zinc Oxide—
Antwerp, 51 brls.
New York, 800
Rotterdam, 81 cks.

Zinc White—
Rotterdam, 106 cks.

MANCHESTER.

Week ending September 21.

Acetone—
Hamburg, 4 dms.

Antimony Salt—
Rotterdam, 4 cks.

Barytes—
Rotterdam, 300 bgs.
Antwerp, 130 Fletcher & Co.
Treport, 30 cks.

Caustic Potash—
Treport, 19 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 32 cks.
Rouen, 30
Rotterdam, 140 bgs. / 10 15 brls. / 12 cs. 9 pks. / 15 kgs.

Coal Products—
Alizarine
Rotterdam, 58 brls. / 6 cks.
Aniline Salt
Rotterdam, 20 cks.
Naphthol Salt
Rotterdam, 50 bgs.
Paranitraniline
Rotterdam, 3 cks.
Tar
Rotterdam, 1 ck.

Colours—
Hamburg, 1 cs.
Rouen, 100 cks.
Antwerp, 6 Fletcher & Co.
Treport, 8
Rotterdam, 63 4 210 pks.

Dextrine—
Stettin, 250 bgs

Dyestuffs—
Indigo Paste
Rotterdam, 143 brls. / 10 cks.

Farina—
Rouen, 100 bgs.
R'terdam, 2,035

Gas Oil—
Philadelphia, 284,332 gals. Anglo-American Oil Co.

Gelatine—
Rouen, 10 cs.
Rotterdam, 12

Glucose—
New York, 2,220 brls.

Glue—
Treport, 1 ck.20 cs. 5 bls.
Antwerp, 20 bgs. Fletcher & Co.

Litharge—
Treport, 20 cks.

Lithopone—
Rotterdam, 6 cks.

Magnesite—
Rotterdam, 115 bgs.

Manganese Ore—
Bombay, 77 t.
Marmagoa, 2,650

Oxalic Acid—
Hamburg, 15 cks.

Paraffin Scale—
New York, 1,591 brls.

Potash—
Hamburg, 50 dms.

Potassium Chlorate—
Treport, 10 cks.

Potassium Permanganate—
Hamburg, 8 cks.

Potassium Prussiate—
Rouen, 19 cks.
Rotterdam, 6
Antwerp, 6

Pyrites (Iron)—
Pomaron, 1,417 t.
Huelva, 1,451

Red Lead—
Rotterdam, 3 cks.

Rosin—
New York, 300 brls.

Rubber—
Treport, 10 cks.

Soap—
N. York, 150 brls. / 5 cs.
Rotterdam, 24

Saltpetre—
Hamburg, 21 cks.

Salt (Waste)—
Hamburg, a qty.

Soap Powder—
New York, 250 bxs.

Sodium Chlorate—
Treport, 52 cks.

Sodium Nitrate—
Treport, 19 cks.

Sodium Phosphate—
Antwerp, 13 cks. Fletcher & Co.
" 68

Starch—
Antwerp, 448 cs.
" 322 Fletcher & Co.
N. York, 40 brls. / 3,600 bgs.
Rotterdam, 110 cs.

Stearine—
Rotterdam, 20 bls.
Antwerp, 121 bgs.

Tallow—
New York, 100 hhds.

Ultramarine—
Rotterdam, 6 cks.

Wax—
New York, 320 brls.

White Lead—
Rotterdam, 5 cks.

Zinc Oxide—
Rotterdam, 10 cks.
Hamburg, 25

HULL.

Week ending September 21.

Acetic Acid—
Rotterdam, 4 cks.

Antimony—
Dunkirk, 8 cks. Wilsons & N.E. R. S. Co.

Asbestos—
Antwerp, 7 bls. Wilsons & N.E. R. S. Co.
" 5 crts.
Riga, 1 pk.

Barytes—
Antwerp, 133 cks. / 300 bgs.
Rotterdam, 350

Calcium Carbide—
Drontheim, 904 dms.

Chemicals (*otherwise undescribed*)
Bremen, 4 cks. Veltmann & Co.
Stettin, 20 brls. Wilson, Sons & Co.
Rotterdam, 5 Hull & N. S.S. Co.

Coal Products—
Alizarine
Rotterdam, 32 pks.
" 60 Hull & N. S.S. Co.
Aniline
Rotterdam, 388 pks. Hull & N. S.S. Co.
Antwerp, 9 brls. "
Creosote
St. Petersburg, 358 brls. Wilson Sons & Co.
Creosote Salt
Rotterdam, 2 cks. Hull & N.
40 bgs. S.S. Co.
Pitch
Antwerp, 14 cks. Wilsons & N.E. R. S. Co.
Tar Oil
Rotterdam, 54 cks. Hull & N.
40 dms. S.S. Co.

Colours—
Zeebrugge, 72 cks.9 cs.
Antwerp, 28 Wilsons & N.E. R. S. Co.
New York, 300 cs.
Hamburg, 7 G. Malcolm & Co.

Dyestuffs—
Annatto
Copenhagen, 6 cs. Wilson, Sons & Co.
Bark Extract
Antwerp, 50 cks.
Myrabolans
Bombay, 680 bgs.

Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.
Stettin, 1,215

Ferro Chrome—
Antwerp, 20 cks.

Ferro Silicon—
Christiania, 64 cs. Wilson, Sons & Co.

Glue—
Antwerp, 17 brls.

Glucose—
New York, 240 brls.

Glycerine—
Hamburg, 19 pks.

Infusorial Earth—
Bergen, 130 kgs.

Mineral White—
Bordeaux, 20 bgs. W. Moran & Co.

Oxalic Acid—
Christiania, 4 cks. Wilson, Sons & Co.
Rotterdam, 11 Hull & N. S.S. Co.

Potash—
Hamburg, 37 dms.
Dunkirk, 44 cks. Wilsons & N.E. R. S. Co.
Antwerp, 5

Rosin—
Bordeaux, 53 cks. Helmsing & Son

Salt—
Rotterdam, 22 cks. Hull & N. S.S. Co.

Soda—
Ghent, 262 bgs.

Starch—
Bremen, 288 cs. Veltmann & Co.
Antwerp, 103
Ghent, 133
Antwerp, 39 Wilsons & N.E. R. S. Co.
" 60

Sulphur Ore—
Aarhus, 600 t.

Tallow—
New York, 120 brls.

Turpentine—
Riga, 124 cks.

Wax—
Hamburg, 4 bls.

White Lead—
Rotterdam, 9 cks. Hull & N. S.S. Co.

Zinc Oxide—
New York, 150 brls. Wilson, Sons & Co.

GLASGOW.

Week ending September 26.

Acetic Acid—
Antwerp, 20 cbys.
Rotterdam, 10 blns.

Aluminium Sulphate—
Rotterdam, 110 bgs.

Ammonia—
Hamburg, 4 pks.

Ammonium Phosphate—
Antwerp, 2 cks.

Asbestos—
Montreal, 400 bgs.
Rotterdam, 2 brls.

Barytes—
Rotterdam, 307 cks.

Barium Sulphate—
Antwerp, 170 cks. / 300 bgs.

Bog Ore—
Delfzyl, a qty.

Chemicals (*otherwise undescribed*)
Rouen, 22 cks.

Coal Products—
Pitch
Germany, 296 brls.
Tar
Germany, 1,220 brls.

Colours—
Antwerp, 2 pks.
Rotterdam, 153

Colza Oil—
Antwerp, 149 brls.

Copper Ore—
Huelva, 2,168 t.

Copper Sulphate—
Antwerp, 4 brls.

Cream of Tartar—
Bordeaux, 95 cs.
Valencia, 70 brls.

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Ferro Silicon—
Antwerp, 27 cks.
Lactic Acid—
Rotterdam, 2 cks.
Magnesium Chlorate—
Hamburg, 250 cks.
Paraffin Wax—
Calcutta, 62 bgs.
Phosphate Rock—
Dongala, 6,500 t. A. Cros & Co.
Rosin—
N. Orleans, 270 brls.
Saltpetre—
Hamburg, 14 cks.
Soap—
Glasgow, 175 brls.
Soda Crystals—
Antwerp, 30 bgs.
Sodium Nitrate—
Rotterdam, 14 cks.
Sodium Phosphate—
Antwerp, 30 cks.
Starch—
Amsterdam, 10 brls. 20 bgs.
Antwerp, 272 cks. 120 cs.
Rotterdam, 41
Sulphur—
Catania, 120 cks. 80 t. 1 brl.
Tallow—
N. Orleans, 250 tres.
Tartar—
Bordeaux, 9 cks.
Turpentine—
N. Orleans, 1,500 brls.
Germany, 535

White Lead—
Rotterdam, 54 cks.
Zinc Oxide—
Antwerp, 25 cks.
Rotterdam, 25
Zinc White—
Rotterdam, 28 cks.

TYNE.

Week ending September 21.

Barium Sulphate—
Ghent, 200 bgs. Tyne S.S. Co.
Chemicals (*otherwise undescribed*)
Hamburg, 3 pks. Tyne S.S. Co.
Coal Products—
Tar
Archangel, 1,700 brls. Craven & Speeding
Colours—
Rotterdam, 1 ck. Tyne S.S. Co.
Ferro Silicon—
Antwerp, 36 rls. Tyne S.S. Co.
Glue—
Antwerp, 80 bls. Tyne S.S. Co.
Pyrites—
Trondhjem, 70 t. Bebe Metal & Chem. Co.
Soda Crystals—
Ghent, 200 bgs. Tyne S.S. Co.
Starch—
Rotterdam, 110 cs. Tyne S.S. Co.

GOOLE.

Week ending September 21.

Bog Ore—
Enden, 320 t.

Caoutchouc—
Boulogne, 1 ck.
Chemicals (*otherwise undescribed*)
Antwerp, 12 brls. 135 bgs.
Boulogne, 2 cs.
Hamburg, 40 cks. 6 88 cbys. 100 dms.
Rotterdam, 28 9
Dyestuffs (*otherwise undescribed*)—
Antwerp, 310 bgs.
Boulogne, 4 cks.
Hamburg, 357 100 26 cs.
Rotterdam, 629 20
Farina—
Boulogne, 1 cs.
Delfzyl, 550 bgs.
Hamburg, 100
Formic Acid—
Hamburg, 12 cks.
Glue—
Hamburg, 200 bgs.
Ghent, 50
Antwerp, 20
Rotterdam, 2 cs.
Oleine—
Dunkirk, 10 cks.
Oxalic Acid—
Hamburg, 5 cks.
Phosphate—
Boulogne, 915 bgs.
Salt (Waste)—
Hamburg, 355 t. 200 bgs. a qty. 503 cks.
Starch—
Rotterdam, 80 cs.
Dunkirk, 240

Stearine—
Hamburg, 12 cks.
Antwerp, 63 bgs.

GRIMSBY.

Week ending September 18.

Barytes—
Rotterdam, 7 cks.
Caoutchouc—
Antwerp 6 pks.
Hamburg 27 cs. 10
Chemicals (*otherwise undescribed*)
Hamburg 1 ck.
Colours—
Hamburg 3 cks. 6 cs. 24 pks.
Antwerp 94
Rotterdam 13
Dyestuffs (*otherwise undescribed*)—
Rotterdam 12 cks.
Dyestuffs—
Extracts (*otherwise undescribed*)
Hamburg 5 pks.
Ferro Chrome—
Dieppe, 9 cks.
Gallic Acid—
Antwerp, 3 cks.
Plumbago—
Hamburg, 8 crts.
Soda—
Antwerp, 17 cks
Starch—
Antwerp. 250 cs.
Rotterdam, 5
Tungsten—
Antwerp, 10 cs. British M. & M. Co.
Zinc Oxide—
Antwerp, 50 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending September 27.

Alcohol (Wood Spirit)—
Valparaiso, 4,224 gals.
Aluminium Sulphate—
B. Ayres, 60 cks. £77
Ammonia—
Calcutta, 5 cs. £8
Alexandria, 12 22
Melbourne, 27 65
C. Town, 16 27
P. Elizabeth, 25 37
Durban, 20 pks. 24 124
Delagoa Bay, 5 8
Algoa Bay, 10 14
Yokohama, 4 dms. 46
Auckland, 20 44
Sierra Leone, 2 6
Ammonium Carbonate—
Copenhagen, 2 cs. £7
Alexandria, 20 kgs. 28
Antwerp, 25 brls. 66
Calcutta, 5 cks. 13
Hamburg, 20 61
Cologne, 26 £49
Newcastle, N.S.W., 100 162
Brisbane, 3 6
Lisbon, 25 kgs. 34
Ammonium Nitrate—
Amsterdam, 20 kgs. £33
Ammonium Sulphate—
Kobe, 425 t. £5,052
Hamburg, 50 600
Mauritius, 350 1 c. 4,386
Dominica, 1 10 19
St. Lucia, 1 10 19
Antimony (Regulus)—
Ghent, 1 t.
Hamburg, 5 10 c.
Rotterdam, 4 5
St. Petersburg, 3
Stockholm, 5
Antimony Sulphate—
Treport, 12 cks. £196
Arsenic—
Durban, 10 dms. £18
Algoa Bay, 20 34

Asbestos—
Colombo, £5
Barium Binoxide—
Treport, 2 t. 1 c. £70
Basic Slag—
Lisbon, 72 t. 11 c. £144
Benzoic Acid—
Wellington, 1 cs. £8
Bleaching Powder—
Wellington, 90 kgs. £19
Lyttelton, 45 10
Bone Ash—
Rotterdam, 10 c. £7
Bones—
Leghorn, 20 t.
Boracic Acid—
C. Town, 5 c. £7
Borax—
Harlingen, 5 cks. £25
Durban, 4 c. 12
Smyrna, 9 12
Algoa Bay, 6 kgs. 5
Madras, 17 34
Calcium Carbide—
Durban, 3 t. 9 c. £20
Axim, 6 cs. 5
Calcium Chloride—
H. Kong, 6 dms. £7
Caustic Potash—
Napier, 10 t. £26
Caustic Soda—
Townsville, 1 t. 14 c. £36
Bilbao, 10 11
C. Town, 14 13
Delagoa Bay, 7 7
Melbourne, 9 8
Gisborne, 7 13
Chalk—
Toronto, 19 t.
Chemicals (*otherwise undescribed*)
Bremen, 1 bx. £5
C. Town, 1 cs. 8
Durban, 50 dms. 4 40
Mossel Bay, 2 17
Boulogne, 1 pk. 8
Broome, W.A., 108 13
Karachi, 8 14
Madras, 9 40
Hamburg, 1 48

Chemicals (*otherwise undescribed*)
Brisbane, 2 cs. £9
Gothenburg, 1 27
E. London, 100 kgs. 51
Rotterdam, 1 5
Alexandria, 8 12
Hamburg, 2 111
Libau, 1 48
Sydney, 1,001 144 335
Adelaide, 13 42
Toronto, 1 9
Rangoon, 4 27
Rotterdam, 5 cks. 8
Stockholm, 2 101
Melbourne, 10 100 182
Ostend, 2 11
Montreal, 67 60 268
Alexandria, 2 42
Bombay, 10 21
Jamaica, 2 2 4 34
Kobe, 25 65
Bermuda, 1 5
Christiania, 1 5
Lyttelton, 1 1 15 48
Citric Acid—
Mossel Bay, 1 kg. £9
Lisbon, 2 c. 22
C. Town, 3 28
Townsville, 1 10
Durban, 4 40
H. Kong, 1 cs. 12
Calcutta, 1 11
Malta, 5 53
Bombay, 1 9
——, 1 12
Hamburg, 5 40
Rotterdam, 6 41
Coal Products (*otherwise undes.*)—
Treport, 45 t. £125
Boston, 500 brls. 320
Coal Products—
Aniline
Boulogne, 5 pks. £33
Aniline Dye
Boulogne, 2 pks. £25
Wellington, 1 cs. 6
Oamaru, 9 cks. 110
Anthracene
Cologne, 325 cks. £367
Carbolic Acid
Colombo, 12 dms. £5
Auckland, 10 8
Malta, 9 cs. 20

Coal Products—
Creosote
Trinidad, 160 dms. £60
Creosote Salt
Philadelphia, 1,049 bgs. £88
Naphtha
Lyttelton, 25 dms. £11
Naphthaline
Sydney, 33 cs. £45
Pitch
Hamburg, 50 brls. £139
Dunkirk, 364 t. 520
Hongay, 4,135 5,639
Treport, 56 130
B. Ayres, 12 8 cs. 26
Dunkirk, 157 212
Sydney, 50 55
Rangoon, 50 kgs. 15
Spain, 10 6
Pyridine Base
Durban, 2 dms. £52
Tar
Algoa Bay, 250 dms. £10
Broome, 25 kgs. 5
Durban, 200 pks. 100 600 150
Delagoa Bay, 350 52
Demerara, 10 rnlts. 7
Mauritius, 25 22
Nelson, 20 7
Piræus, 5 brls. 86
Shanghai, 4 cks. 5
Wellington, 50 dms. 10
Cottonseed Oil—
Antwerp, 30 t.
Bordeaux, 30 10 c.
Constanti'ple, 3 11
Dedeagatch, 10 1
Marseilles, 35 6
Melbourne, 9 12
Rotterdam, 21 18
Hamburg, 17 5
Paris, 8 9
Salonica, 5 4
Cream of Tartar—
Algoa Bay, 26 pks. £20
Cyanide (*otherwise undescribed*)—
Delagoa Bay, 9 t. 10 c. £761
Baltimore, 5 2 378
New York, 18 3 1,337
Greymouth, 4 10 382
Beira, 1 4 96

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Disinfectants—
Durban, 445 dms.
2 cks. 16 cs. £216
Cologne, 10 178
Singapore, 115 32
Toronto, 5 5
Lisbon, 1 33
Rangoon, 4 12
Wellington, 24 73
Alexandria, 1 8
C. Town, 18 420 272
Bombay, 101 pks. 2 18
Para, 30 49
Barcelona, 1 17
Bilbao, 1 22
Lyttelton, 8 25
Copenhagen, 2 18
Marseilles, 2 cks. 7
Penang, 7 12
Algoa Bay, 2 6 kgs. 22

Fertiliser—
Rochefort, 216 t. 18 c. £750
Rouen, 1 10 10
Bordeaux, 40 8 225

Glycerine—
Algoa Bay, 2 cs. £6
Lisbon, 5 26
Durban, 5 c. 14
Paris, 1 7
Shanghai, 10 29

Hydrocarbon—
Brussels, 17 dms. £162
Cologne, 15 375

Hydrochloric Acid—
Algoa Bay, 3 c. £5

Hypophosphite of Lime—
Hamburg, 4 cs. £20

Linseed Oil—
Alexandria, 4 t. 19 c.
Auckland, 11 19
Azores, 4
Beira, 3
Brisbane, 2 10
Brussels, 16 2
C. Town, 8
Cochin, 4
E. London, 4 7
H. Kong, 3 16
Iquique, 7 14
Jamaica, 17
Montreal, 3 11
Otago, 4 4
Penang, 3 12
Pernambuco, 3 10
Perth, 8
Piræus, 17
P. Elizabeth, 24 9
P. Said, 8
Rockhampton, 1 2
Singapore, 8 12
Sydney, 2 8
Townsville, 1
Trinidad, 12
Valparaiso, 10
Yokohama, 2
Adelaide, 4 16
Aden, 10
Bangkok, 2 14
Bilbao, 14
Broome, 1 2
Calloa, 6 4
Durban, 11 9
Halifax, N.S. 12 18
Lisbon, 1 15
Mauritius, 4 2
Melbourne, 16 13

Manure—
Copenhagen, 45 bgs. £34
Las Palmas, 10 t. 1 c. 40
Auckland, 201 16 577
Delagoa Bay, 8 10 35
Wellington, 150 6 464
Lisbon, 34 14 160
Durban, 155 15 608
Guernsey, 23 105
Mauritius, 80 236
Valencia, 100 18 225
Malaga, 30 9 220
Dominica, 1 3

Muriatic Acid—
Durban, 10 c. £7

Nitric Acid—
Madras, 5 c. £6

Oxalic Acid—
Sydney, 7 cks. £70
Valkerie, 4 39

Phosphate—
Azores, 54 t. 3 c. £138
Mauritius, 23 4 729

Phosphorus—
Calcutta, 2 cs. £13
Sydney, 22 145

Phosphorus (Amorphous)—
Hamburg, 2 cs. £11
Durban, 15 128
B. Ayres, 3 48

Plumbago—
Singaproe, 1 t.
Calcutta, 8

Potash—
New York, 1 t. 8 c. £93

Potassium Sulphate—
Delagoa Bay, 1 t. 1 c. £11

Quinine—
C. Town, 700 ozs.
Bombay, 4,000
Catacola, 706
Volo, 411

Salammoniac—
C. Town, 5 c. £10
Cologne, 15 brls. 60
Durban, 1 t. 29
Smyrna, 2 cks. 8
Bagdad, 10 c. 19
Calcutta, 5 kgs. 9

Salt—
Adelaide, 10 t.
Durban, 2
Delagoa Bay, 8
Durban, 2

Saltcake—
Stockholm, 5 t. £8

Saltpetre—
Launceston, 2 kgs. £2
Bahia, 1 t. 2 c. 29
Durban, 8 12
Brisbane, 6 183
Perth, 2 51
Copenhagen, 10 cks. 62
Wellington, 6 7

Sheep Dip—
Durban, 100 dms. £10
Hobart, 220 5 cs. 61
P. Arenas, 420 30 700
Lyttelton, 50 22
Napier, 100 45
Gisborne, { 100 / 2 cks. } 200

Silver Nitrate—
Melbourne, 1 cs. £86

Soap—
Antwerp, 1 c.
Auckland, 3 t. 4
Bangkok, 2
Barcelona, 2
Bombay, 4 13
Boulogne, 9
Bremen, 12
Brisbane, 3
Brussels, 4
Calcutta, 4 8
C. Town, 3 10
Channel Is., 8
Colombo, 3 5
Durban, 1
Karachi, 3
Kobe, 7
Mombasa, 2
Perth, 2
P. Said, 2
Rotterdam, 2 2
Singapore, 2
Surinam, 4
Sydney, 13 1
Alexandria, 10
Bermuda, 1 17
B. Ayres, 1 3
Delagoa Bay, 10
Demerara, 14
Dominica, 3 5
Grenada, 16
Hamburg, 8
Hamilton, 3
Madras, 6 15
Melbourne, 5
Montreal, 1
Ostend, 4
P. Elizabeth, 12
P. Sudan, 7 13
P. Arenas, 2
Rangoon, 1 9
St. Lucia, 2 10
Sekondi, 2
Tientsin, 4
Wellington, 2 12
Yokohama, 4
Zanzibar, 6 19

Soap Extract—
Gisborne, 9 c.

Soap Lyes—
Hamburg, 5 t. 1 c.

Soda Ash—
Mombasa, 3 t. 12 c. £17
Dominica, 1 12

Sodium Nitrate—
Delagoa Bay, 1 t. 1 c. £12

Sulphur—
Algoa Bay, 8 t. 10 c. £97

Sulphuric Acid—
Madras, 6 t. 18 c. £49
Bombay, 5 6
Jersey, 18 10
Brisbane, 15 77
Demerara, 10 5 43
Sekondi, 11 10
Algoa Bay, 4 9 8

Superphosphate—
Mauritius, 98 t. 4 c. £329
Azores, 7 8 24

Starch—
Adelaide, 5 t. 5 c.
Beira, 2
Channel Is., 8
Durban, 17 3
St. John, N.B., 1
Sydney, 1 6
Bangkok, 7
Bombay, 2
Delagoa Bay, 4
Madeira, 1

Tallow—
Antwerp, 5 t. 1 c.
Bilbao, 9 19
Harlingen, 5 10

Tartaric Acid—
Calcutta, 2 c. £8
Penang, 2 7
Singapore, 1 6
C. Town, 5 25
E. London, 2 13
Dunedin, 2 13
Algoa Bay, 3 16
Townsville, 2 cks. 13
Tampico, 1 t. 2 132

Wax—
Brussels, 2 t. 8 c.

White Lead—
Brisbane, £305
C. Town, 273
Delagoa Bay, 62
East London, 375
Port Elizabeth, 230
Adelaide, 80
Durban, 295
Otago, 68
Wellington, 719

LIVERPOOL.

Period ending September 25.

Acetic Acid—
Varna, 5 c. £6

Alum—
Sydney, 15 t. £92
Jeddah, 2 1 c. 12
Hamburg, 1 7 7
Santos, 1 17 10
Galatz, 6 12 36
Piræus, 2 11
Oporto, 3 17
Vancouver, 2 kgs. 1
Palma, 2 brls. 2

Aluminium—
Madras, 17 c.

Aluminous Sulphate—
Lagos, 6 c. £3

Ammonium Carbonate—
Sydney, 1 t. 10 c. £ 5
Genoa, 1 17 65
Malaga, 6 10

Ammonium Chloride—
Rangoon, 1 cs. £20

Ammonium Muriate—
Bribane, 19 c. £23
Hiogo, 7 t. 11 181
Yokohama, 3 1 73
Adelaide, 19 23
Genoa, 9 8 226
Trieste, 2 13 64
Stockholm, 5 2 123
Genoa, 2 7 56
Venice, 12 14
Cape Town, 5 6
E. London, 1 1
Arica, 4 5
Stamboul, 8 12
Hamburg, 1 8 21
Auckland, 19 23
V. Cruz, 10
Auckland, 19 23
V. Cruz, 10 12

Ammonium Nitrate—
Montreal, 3 t. 18 c. £132

Ammonium Sulphate—
Baltimore, 33 t. 13 c. £120
Philadelphia, 91 13 860
Lisbon, 112 1,280
Canary, 19 13 228
Barcelona, 60 2 610
Las Palmas, 200 2,300
Sourabaya, 525 11 7,973
H. Kong, 20 240
Samarang, 174 15 2,080
Bassardan, 86 16 1,045
Nantes, 30 360
Valencia, 125 1,566
Malaga, 20 240
Baltimore, 20 237
Yokohama, 100 16 1,200
Montreal, 15 180
Santa Cruz, 120

Arsenic—
Demerara, 4 c. £7

Basic Slag—
Venice, 370 t. £730

Bleaching Powder—
Bombay, 50 cs.
Boston, 606 cks.
Durban, 25 dms.
Galatz, 10
Ghent, 30
Montreal, 69
New York, 165
Piræus, 10
Portland, 111
N. Orleans, 20 brls.

Boiler Composition—
Karachi, 5 cks.

Bones—
Las Palmas, 4 c. £7

Boracic Acid—
V. Carda, 12 c. £17
Oporto, 1 ck. 4

Borax—
Auckland, 1 t. £16
Lyttelton, 1 1 kg. 18
Kingston, 2 c. 375
Havana, 1 15
Santiago, 17 13
Cienfuegos, 2 7 37
Vera Cruz, 2 32
Piræus, 10 8
Vancouver, 2 2
Montreal, 1 10 24
Bahia, 1 2
Melbourne, 5 78
Victoria, 3 3
Santos, 10 8
Colon, 12 12
Hamburg, 5 75

Calcium Chloride—
P. Said, 17 t. 18 c. £36
Timaru, 5 4 10
Sydney, 5 3 10
Yokohama, 25 11 51
Hiogo, 7 12 15
Montreal, 10 3 19

Calcium Sulphydrate—
Antwerp, 20 t. 14 c. £86

Camphor—
Para, 1 cs.

Caustic Potash—
Maraos, 2 c. £2
Sydney, 2 3
Havre, 15 22

Caustic Soda—
Adelaide, 75 dms.
Bahia, 45
Barcelona, 230
Bombay, 60
Braila, 100
B. Ayres, 951
Calamata, 78
Carupano, 15
Cebu, 10
Chemulpo, 100
Corfu, 12
Corral, 2
Genoa, 99
Gothenburg, 3
Hiogo, 215
H. Kong, 90
Lyttelton, 60 cs.
Manzanillo, 21
M. Video, 125
Messina, 152
Montreal, 90
Naples, 69
Newcastle, 151
Padang, 100
Palermo, 33
Para, 5
Parrahyba, 20
Pasages, 20 10 cks.

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Caustic Soda—
Pernambuco, 120 dms.
Penang, 20
Piræus, 28
P. Cabello, 10
Quebec, 25
St. Johns, 20
S. Sebastian, 25
Santos, 125
Seville, 210
Sydney, 109 35 cks. 480 tins.

Chemicals (*otherwise undescribed*)
Montreal, 44 cks. £47
Naples, 20 kgs. 30
Antwerp, 10 brls. 16
Brussels, 4 24 70
Sydney, 12 10kgs. 34
Dunedin, 43 cs. 61
Toronto, 50 217
Montreal, 46 122 brls. 613
Talcahuano, 20 cs. 14
Stockholm, 10 118
Alicante, 5 8
Yokohama, 7 77

China Clay—
Galatz, 50 bgs.
Talcahuano, 10 cks.
New York, 385

Chromium Acetate—
Santos, 1 t. 1 c. £71

Cobalt Oxide—
Santander, 2 cs.

Coal Products—
Aniline Salt
Bombay, 15 c. £52
Carbolic Acid
Hong Kong, 8 c. £10
Vladivostock, 2 t. 10 38
Carbolic Acid (Solid)
Hamburg, 5 t. 3 c. £298
Yokohama, 5 262
Creosote Salts
Montreal, 3 pks. £40
Tar
Hamburg, 10 dms.
Lagos, 10 brls.
Tar Oil
Stettin, 15 dms.

Colours—
Guantanamo, 80 kgs.
Rio de Jan., 80

Copperas—
Las Palmas, 3 t. 61 c. £11

Copper Sulphate—
Varna, 2 t. £54
Calcutta, 5 1 c. 137
Catania, 5 124
Madras, 3 5 91
Bourgas, 1 5 32
Kerasunde, 2 3
Nantes, 3 1 130
Marseilles, 7 10 230
Barcelona, 14 16 454
V. Cruz, 20 536
Santa Cruz, 5 7
Singapore, 2 10 70
Constantinople, 10 14
S.Petersburg, 15 3 395
Perth, 1 25
M. Video, 4 16 127
Beyrout, 1 25
Philadelphia, 25 3 604
Hamburg, 19 22
Wellington, 1 25
Christiania, 19 22
Mollende, 2 4
Iquique, 8 13
Valparaiso, 10 16
Callao, 5 9
Tampico, 9 17 306
Baltimore, 20 1 438
Antwerp, 1 18 44

Cottonseed Oil—
Dakar, 20 brls.
Marseilles, 1 062
Rufisque, 60

Disinfectants—
Constantinople, 2 cs. £12
Las Palmas, 12 dm. 7
Napier, 5 6
Westport, 1 2
Lagos, 1 ck. 2
St. John, 1 2
Delagoa Bay, 249 207
Kingston, 1 4
Calcutta, 4 10 100 60
Algoa Bay, 5 t. 50
Adelaide, 52 pks. 66

Dried Blood—
Las Palmas, 2 t. £19

Dyestuffs (*otherwise undescribed*)—
Montreal, 11 pks.

Dyestuffs—
Dyewood
Alexandria, 200 bgs.
Tanners' Extract
Bordeaux, 10 cks.
Santos, 5
Hamburg, 55

Fertiliser—
Norfolk, 750 t. £2,573

Fish Oil—
Galatz, 15 brls.

Fluoric Acid—
Demerara, 3 c. £5

Glue—
Antwerp, 60 pks.
Bombay, 70 cs.
Copenhagen, 40 tins.
Montreal, 100 bgs.
New York, a qnty.

Gluestock—
New York, 41 bls.

Glycerine—
Cadiz, 3 c. £8
Barbadoes, 2 5
Vancouver, 2 8
Oporto, 1 t. 53
Lisbon, 7 13
Newport, 1 ck. 2
S. Francisco, 20 t. 1,100
Montreal, 15 60
Venice, 10 25

Iron Oxide—
Santos 10 cks.

Lead Nitrate—
New York, 10 t. 9 c. £255

Linseed Oil—
Bolivia, 50 dms.
Bombay, 121
Burutu, 6 brls.
Ceara, 5 30
Galatz, 4
Genoa, 2
Guayaquil, 50
Havana, 10
M. Video, 90
Nuevitas, 5ck. 10
Piræus, 10 10
P. Colombo, 6
P. Plata, 60
St. Johns, 170
Salonica, 6
San Juan, 50

Magnesia—
Montreal, 2 c. £21
Oporto, 1 cs. 3
V. Cruz, 2 11
B. Ayres, 5 12

Magnesium Chloride—
Rangoon, 19 c. £4

Magnesium Citrate—
Bahia, 5 c. £9

Magnesium Sulphate—
B. Ayres, 2 t. 2 c. £10

Manganese Ore—
Cape Town, 2 t. 7c.

Manure—
Canary, 15 t. 2 c. £38
Valencia, 25 201

Nitrate Acid—
Piræus, 1 cs. £3

Oleine—
Barcelona, 9 brls.

Oxalic Acid—
New York, 1 t. 12 c. £58
Lisbon, 1 ck. 11

Phosphorus—
Tampico, 6 c. £50
Kobe, 2 t. 4 320
M. Video, 1 10

Phosphorus (Amorphous)—
Kobe, 2 t. 4 c. £440
Yokohama, 9 181

Potash—
M. Video. 2 c. £2

Potassium Bichromate—
Santos, 5 c. £11

Potassium Carbonate—
Calcutta, 8 c. £10
Valparaiso, 1 cs. 2

Potassium Chlorate—
Amsterdam, 12 c. £18
Yokohama, 17 t. 10 525
Kobe, 37 10 1,125
Palermo, 19 30
Venice, 19 147

Potassium Chlorate—
Christiania, 7 t. 10 c. £225
Naples, 2 10 75
Genoa, 19 30
Rio de Jan., 9 14
Sao Paulo, 1 14 51
Manilla, 5 180
Hamburg, 1 30
Rotterdam, 2 4 65

Potassium Prussiate—
Rio de Jan., 19 c. £56

Prussiate (Yellow)—
Genoa, 4 t. 18 c. £277

Red Lead—
Madras, 6 kgs.
Manilla, 100

Rubber—
Hamburg, 18 bgs.

Salammoniac—
Lagos, 1 t. 2 c. £25
Bombay, 2 10 120
Genoa, 1 38
Con'nople, 3 10 133
Trieste, 18 30
Galatz, 1 17 72
Leghorn, 8 cks. 20
Burutu, 1 cs. 1

Salt—
Brisbane, 25 cs.
B. Ayres, 100
Calabar. 100
Delagoa Bay, 25
Rosario, 100
Durban, 50 t. 10 pks.
Opobo, 28 2 c.
Conakry, 50

Saltcake—
Antwerp, 70 t. 4 c. £70
Sweden, 196 5 219

Saltpetre—
Para, 10 c. £13
Lagos, 6 10

Sheep Dip—
B. Ayres, 1,500 dms. 17 t. 16 c. £1,668 100 cs.
M. Video, 730 180
Durban, 2 12 c. 70
Algoa Bay, 9 4 181
Delagoa Bay, 1 7 30
New York, 10 10
E. London, 3 7 137
Cape Town, 1 12 50
P. Arenas, 50 kgs. 500 200 cs. 697

Soap—
Addah, 100 bxs.
Alexandra, 200 10 brls.
Bakana, 250
Bangkok, 603
Bathurst, 160
Belize, 440
Benin, 3 cs.
Bermuda, 150
Boma, 20
Calabar, 668
Calcutta, 161 250 bds.
C. C. Castle, 75
Cochin, 60
Delagoa Bay, 35
Demerara, 290
Fiume, 11
Genoa, 170
Guernsey, 850
Hamburg, 5
H. Kong, 300
Karachi, 209
Kingston, 1
Lagos, 50 750 bdls.
Landana, 100
Leghorn, 1
Lyttelton, 5
Malta, 18
Maranham, 15
P. Elizabeth, 175 10
P. Limon, 10
Rangoon, 170 40 dms.
St. Johns, 3
S. Leone, 364
Singapore, 3

Soap Extract—
Sydney, 70 cs.

Soda Ash—
Brazzaville, 30 brls.
Cavalla, 25
Durban, 14 cks.
Galatz, 5
Calcutta, 37 2,298 bgs.
Genoa, 400
Hamburg, 26 850
Haifa, 13
Hiogo, 25
H. Kong, 48
Kingston, 39

Soda Ash—
Newcastle, 10 cks.
Montreal, 19 675 bgs.
N. Orleans, 57
Piræus, 10 brls.
P. Alegre, 200
Rio de Jan., 160
Rotterdam, 798
St. Johns, 100
Santos, 70
Sourabaya, 6 450
Sydney, 605
Talcahauno, 20

Soda Crystals—
Barcelona, 60 bgs.
Calcutta, 30 kgs.
Cape Town, 50
Corfu, 35 brls.
Gabes, 13
Hiogo, 50 cks.
Sydney, 2
Malta, 190
Montreal, 50 kgs.
Oporto, 14
Taltal, 30

Sodium Bicarbonate—
Alexandretta, 8 bgs. 8 brls.
Alexandria, 40 kgs.
Barcelona, 135 18 cks.
Bombay, 160 50 bgs.
Brisbane, 407
B. Ayres, 45 cks.
Calcutta, 200
Con'nople, 60
Demerara, 30
Durban, 40
E. London, 10 bgs.
Galatz, 44
Genoa, 30
Hamburg, 20
Hiogo, 500 2,500
Messina, 25 10 cks.
Montreal, 50 75
Newcastle, 100
Naples, 50
Philippolis, 44
Rio de Jan., 40 cs.
Rosario, 43
Smyrna, 10 25 dms.
Stamboul, 80
Bombay, 3

Sodium Cyanide—
Galveston, 5 t. 1 c. £325

Sodium Silicate—
Barcelona, 66 dms.
Braila, 32 brls.
Genoa, 160
Maranham, 30 cks.
Oporto, 47
Rio de Jan., 23 cs.

Sodium Sulphate—
Melbourne, 1 t. £11

Sodium Sulphide—
Sydney, 12 t. £87
New York, 1 kg. 1

Starch—
Rio de Jan., 16 cs.

Sulphur—
Algoa Bay, 14 t. 5 c. £150
Gothenburg, 50 236
Boston, 50 2 207
Christiania, 75 375

Superphosphates—
Las Palmas, 90 t. 5 c. £289
Nantes, 98 8 197
Teneriffe, 24 1 66
Malaga, 395 15 980
Oporto, 198 534
Algeceras, 198 bgs. 100
Valencia, 465 1,412
B. Ayres, 2 cs. 2
Smyrna, 1 11
Para, 1 2 c. 14
E. London, 15 7

Tallow—
Alexandria, 6 brls.
Bombay, 90
Fiume, 60
Rotterdam, 235 pks.

Tartaric Acid—
Victoria, 1 c. £5

Tin Crystals—
Lisbon, 1 kg. £10

Tin Chloride—
Lisbon, 1 ck. 2 c. £30

Tin Oxide—
Halifax, 1 t. 13 c. £280

Turpentine—
Rotterdam, 6 brls.

White Lead—
B. Ayres, 45 cks.
M. Video 10 crts.

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Zinc Ashes—
Rotterdam, 15 t. 7 c.
Zinc Chloride—
Calcutta, 2 t. 1 c. £29
Bombay, 6 13 10
Zinc Muriate—
Piræus, 58 t. 18 c. £766
St. Petersburg, 17 9

MANCHESTER.

Week ending September 25.

Caustic Soda—
Sousse, 8 dms.
Chemicals (*otherwise undescribed*)
Alexandria, 100 bgs.
Montreal, 20½ tcs.
Coal Products—
Aniline Oil
St. Petersburg, 40 dms.
Aniline Salt
St. Petersburg, 264 puns.
Alexandria, 1 cs.
Creosote Oil
Bombay, 299 brl
N.Orleans, 3,233 t. 9 c.
Naphthylamine
Germany, 22 cks.
Colours—
Germany, 3 kgs.
Dyestuffs—
Logwood Extract
Christiania, 4 cks.
Myrabolans
Christiania, 50 bgs.
Flux Skimmings—
Germany, 28 cks.
Linseed Oil—
Beyrout, 15 brls.
Bushire, 5 dms.
Larnaca, 6
Magnesia—
Bombay, 13 bgs.
Salt—
Rotterdam, 360 t.
Dunkirk, 10 bgs.
Soap—
Alexandria, 80 cs.
Soap Lyes—
New Jersey, 15 dms.
Soda Crystals—
Limassol, 100 kgs.
Sfax, 40 bgs.
Sodium Bicarbonate—
Beyrout, 50 kgs.
Sodium Silicate—
Tunis, 3 cks.
Tallow—
Bombay, 11 brls.
Zinc Ashes—
Germany, 245 bgs.
Zinc Chloride—
Bombay, 2 cks.
Zinc Sulphate—
Bombay, 10 kgs.

GLASGOW.

Week ending September 26.

Ammonium Carbonate—
Sweden, 2 t. 7 c. 3 q.
Ammonium Sulphate—
Demerara, £2,570
Alicante, 106 t. 4 c. 2 q.
Alexandria, 57 4
Malaga, 40 5
Valencia, 9 17 2
Melbourne, 11 5
Carbon Bisulphide—
Adelaide, 13 c. 3 q.
Caustic Potash—
Melbourne, 1 t.
Chemicals (*otherwise undescribed*)
Auckland, £72
Wellington, 69
Bombay, 41
Coal Products—
Creosote Oil
Christiania, 48 t. 8 c.
Pitch
Alexandria, £154
Canada, a qty.
Christiania, 20 t. 7 c. 1 q. 25 lb.
Rotterdam, 2 pks.
Coal Products—
Tar
Canada, a qty.
Dyestuffs (*otherwise undescribed*)—
Canada, £310
Fish Oil—
Valencia, £200
Linseed Oil—
Bonavista, 18 c. 1 q.
Canada, 1 t. 13 2
Berbice, 1 8 2
Melbourne, 4,160 gals.
Trinidad, 1 t. 8 c. 2
Alexandria, 15 6 4
Egypt, 2 18
Santiago, 2 1
Paraffin (Solid)—
Rotterdam, 10 c.
Paraffin Wax—
Valparaiso, 10 t.
Wellington, 2 t. 2 q.
Barcelona, 8 19 c.
Phosphate—
Malaga, 5 t. 17 c. 3 q.
Phosphate of Lime—
Canada, 2 t. 8 c.
Potassium Bichromate—
Antwerp, 2 t. 15 c. 3 q.
Stockholm, 7 3
Melbourne, 3 4 1
Sydney, 2 2
Alexandria, 1 1
Amsterdam, 1 13
Rotterdam, 5 3
Potassium Cyanide—
Fremantle, £260
Rio de Janerio, 670
Sydney, 700
Red Lead—
Calcutta, 10 t. 11 c. 3 q.
Sweden, 2 8 3
Sheep Dip—
Hiogo, 100 t. 1 c.
P. Arenas, £105
Sodium Bichromate—
Antwerp, 1 t. 12 c.
Sodium Cyanide—
Marfil, £1,547
Sydney, 227
Sulphuric Acid—
Calcutta, £285
Superphosphates—
Auckland, 140 t.
Algiers, 298 3 c. 3 q.
Malaga, 5 17 3
Turpentine—
Canada, £21
Alexandria, 55
White Lead—
Auckland, 1 t. 6 c. 2 q.
Brisbane, 9 3 2
Zinc Oxide
Auckland, 1 t. 13 c.
Sydney, 5 8 2 q.
Zinc White—
Callao, 5 t. 7 c.

HULL.

Week ending September 21.

Ammonium Sulphate—
Hamburg, 500 bgs.
Italy, 383
Antimony (Crude)—
New York, 100 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 3 cks.
Bergen, 664 slbs.
Bremen, 5
Christiania, 18 10 cs. 735
Copenhagen, 20
Danzig, 16 30 kgs.
Gothenburg, 1,795
3 cs. 37 pks.
Helsingfors, 8
Hamburg, 22 2
Novorossisk, 2 dms.
Naples, 12
New York, 16 pns. 5
Odessa, 186 cks.
Palermo, 1
Riga, 4 pks.
Stockholm, 5
St. Petersb'g, 75 36
Stettin, 20 kgs.
Coal Products—
Pitch
Aalesund, 2 cks.
Antwerp, 80 t.
Dunkirk, 200
500 cks.
Gothenburg, 16
Tar
Amsterdam, 20 cks.
Wyburg, 10 brls.
Copenhagen, 10
Hamburg, 53
Antwerp, 5
Cottonseed Oil—
Amsterdam, 6 t. 1 c.
Bremen, 10 4
Copenhagen, 6 7
Marseilles, 20 1
Palermo, 50 brls.
Rotterdam, 29 18 c.
Stettin, 1
Dyestuffs (*otherwise undescribed*)—
Antwerp, 11 cks.
Ferro Silicon—
Novorossisk, 100 t.
Glue—
Bergen, 2 bgs.
Linseed Oil—
Christiania, 1 t. 2 c.
Constanti'ple, 6 10
Copenhagen, 17
Drontheim, 17
Hamburg, 11
Palermo, 2 brls.
Sourabaya, 18 c.
Manure—
Ghent, 44 brls.
Dunkirk, 1,450 bgs.
Genoa, 170 t.
New York, 2,589
Molasses—
Drontheim, 15 brls.
Phosphate—
Ancona, 8,000 bgs.
Copenhagen, 100
Venice, 42,063
Salt—
Amsterdam, 20 cks.
Gothenburg, 40 cs.
Starch—
Christiania, 10 bgs.
Tallow—
Riga, 32 cks.
Turpentine—
Amsterdam, 6 cks.
Christiania, 4
Copenhagen, 5
Constanti'ple, 35
Hamburg, 15
Antwerp, 8

TYNE.

Week ending September 21.

Antimony (Regulus)—
Hamburg, 24 t. 12 c. 1 q. 16 lb.
Rotterdam, 8 11
Barium Binoxide—
Hamburg, 43 t. 8 c. 1 q. 28 lb.
Barium Carbonate—
Hamburg, 181 t. 7 c.
Bleaching Powder—
Rotterdam, 15 t. 11 c. 1 q. 15 lb.
Odense, 2 14 12
Copenhagen, 42 7 2 25
Amsterdam, 15 8 18
Christiania, 11 12 2 20
Caustic Soda—
Stockholm, 41 t. 10 c. 10 lb.
Geffe, 24 7 2 q.
Antwerp, 6 17 2
Barcelona, 129 13 2 13
Copenhagen, 2 6 1 20
Bergen, a qty.
Trondhjem, ,,
Amsterdam, 10 t.
Gothenburg, 9 17 1 8
Christiania, 7 7 6
Coal Products—
Naphthaline
Riga, 60 t. 3 c. 3 q. 18 lb.
Cobalt Sulphate—
Christiania, 3 q. 4 lb.
Litharge—
Stockholm, 18 t. 1 q. 23 lb.
Riga, 9 3 c. 2 12
Christiania, 5 2 2 20
Magnesia—
Barcelona, 5 t. 7 c. 2 q. 10 lb.
Red Lead—
Stockholm, 16 t. 12 c. 2 q. 13 lb.
Geffe, 2 14 12
Rotterdam, 1 1 21
Odense, 10 3 12
Copenhagen, 1 5 18
Bergen, a qty.
Trondhjem, ,,
Gothenburg, 8 6 11
Christiania, 5 5 18
Soap—
Bergen, a qty.
Trondhjem, ,,
Soda—
Amsterdam, 20 t.
Sodium Silicate—
Christiania, 13 t. 12 c. 2 q. 22 lb.
Sodium Sulphate—
Antwerp, 50 t.
Sodium Sulphide—
Stockholm, 34 t. 2 c. 2 q. 20 lb.
Christiania, 2 9 1 24
Sulphur—
Gothenburg, 115 t.
Christiania, 710
Turpentine—
Hamburg, 1 t. 3 q. 20 lb.
Rotterdam, 42 gals. 2 quarts
White Lead—
Antwerp, 8 c.
Rotterdam, 4 t. 17 1 q. 26 lb.
Gothenburg, 2 1 24
Zinc Ore—
Antwerp, 4 t. 2 c. 18 lb.

GOOLE.

Week ending September 21.

Chemicals (*otherwise undescribed*)
Antwerp, 8 cks.
Boulogne, 2
Copenhagen, 45
Hamburg, 20 96 cs.
Rotterdam, 6 4 14 dms.
4 bgs.
Coal Products (*otherwise undes.*)—
Amsterdam, 36 cks.
Boulogne, 112
Coal Products—
Benzol
Boulogne, 62 cks.
Rotterdam, 30 dms.
Pitch
Dunkirk, 76 t.
Colours—
Amsterdam, 1 ck.
Antwerp, 41 10 dms.
Boulogne, 3 2 cs.
Dunkirk, 1
Ghent, 2
Hamburg, 2 1
Rotterdam, 2
Dyestuffs (*otherwise undescribed*)—
Antwerp, 5 cks.
Rotterdam, 23
Soap—
Rotterdam, 3 cks. 1 cs.

GRIMSBY.

Week ending September 18.

Chalk—
Hamburg, 100 brls.
Chemicals (*otherwise undescribed*)
Hamburg, 46 cks. 5 kgs.
Malmo, 12
St. Thomas, 14 1 cs. 20 dms.
Coal Products (*otherwise undes.*)—
Rotterdam, 25 cks.
Colours—
Hamburg, 5 pks.
St. Thomas, 100 kgs. 80 dms.
Dyestuffs (*otherwise undescribed*)—
Dieppe, 3 pks.
Manure—
Hamburg, 134 bgs.
Soap—
Hamburg, 50 cs.
Starch—
Helsingborg, 16 cs.

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PRICES CURRENT.

FRIDAY, October 4, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
„ Glacial	„		40/-	
Arsenic S.G. 2,000°	„		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
„ (Cylinder), 30° Tw.	„	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	„	0	0	10⅛
Picric	„	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
„ (Pyrites, 168°)	„	3	2	6
„ („ 150°)	„		30/-	
„ (free from arsenic, 145°)	„		36/-	
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic	per lb.	0	1	3
Tartaric	„	0	0	11
Acetone	per ton	82	10	0
Arsenic, white powdered	nett „	31	0	0
Alum, loose lump (delivered)	„	5	12	6
Alumina Sulphate (pure)	„	4	7	6
Aluminoferric	„	2	12	6
Aluminium (Ingot metal 98/99%)	nett „	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
„ .880	per ton	24	0	0
„ .920	„	13	0	0
„ Carbonate	per lb.	0	0	3⅝
„ Muriate (grey)	per ton	25	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
„ Nitrate	per ton	36	0	0
„ Phosphate	„	38	0	0
„ Sulphate (grey), London	„	11	15	0
„ „ „ Hull	„	11	15	0
„ „ „ Manchester	„	11	15	0
Aniline Oil (pure)	per lb.	0	0	5⅜
Aniline Salt „	„	0	0	4⅞
Antimony	per ton	45	0	0
„ (tartar emetic) 43/44%	per lb.	0	0	9⅛
„ (golden sulphide)	„	0	1	3
Barium Chloride	per ton	7	5	0
„ Carbonate (native). 92/94%	„	5	0	0
„ Sulphate (native levigated)	„	45/-	to	65/-
Bisulphide of Carbon	„	18	10	0
Bleaching Powder, 35%	nett „	4	7	6
„ Liquor, 7%	„	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	„	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	„	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	9
„ 50/90	„	0	0	9¼
Carbolic Acid (crude 60°)	„	0	1	8
„ (crystallised 40°)	per lb.	0	0	5⅝
„ (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	„	0	0	2¾
„ (filtered for Lucigen light)	„	0	0	3¼
Crude Naphtha, 30% A @ 120° C.	„	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	1	5	6
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	62	0	0
„ Sulphate	„	23	0	0
„ Oxide (copper scales)	„	55	0	0
Glycerine (crude), 80%	„	31	0	0
„ (distilled S.G. 1260°)	„	53	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
„ Sulphide	„	3	10	0
Lead (sheet)	„	23	0	0
„ Litharge Flake (ex ship)	„	24	0	0
„ Acetate (white) „	„	32	0	0
„ „ (brown) „	„	26	10	0
„ Carbonate (white lead), pure	„	25	10	0
„ Nitrate	„	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
„ „ (grey) 80%	„	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
„ Chloride	per ton	3	7	6
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton	17	0	0
„ Sulphate (Epsom Salts)	„	3	0	0
Manganese, Sulphate,	„	17	10	0
„ Borate	per cwt.	2	2	6
„ Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	„	0	2	4
„ „ Miscible, 60° O.P.	„	0	1	10
Oils :—				
Cottonseed	per ton	27	0	0
Linseed	„	24	15	0
Stearine	„	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
„ (red)	„	0	1	11
Potassium, Bichromate	nett „	0	0	3½
„ Carbonate, 90% (ex ship)	per ton	19	10	0
„ Chlorate	per lb.	0	0	3½
„ Cyanide, 98%	„	0	0	8½
„ Hydrate (Caustic Potash) 90%	per ton	26	0	0
„ „ „ 75/80%	„	21	0	0
„ Potash Hydrate Liquid, 50%	„	14	10	0
„ Nitrate (refined)	„	23	10	0
„ Permanganate (small crystals)	per cwt.		36/-	
„ Prussiate (yellow)	per lb.	0	0	5¾
„ Sulphate, 90% (ex ship)	per ton	9	15	0
„ Muriate, 80% „	„	9	0	0
Silver (metal)	per oz.	0	2	6 11/16
Sodium (metal)	per lb.	0	3	0
„ Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
„ „ (Caustic Soda-ash), 48%	„ „	5	10	0
„ „ (Carb. Soda-ash), 48%	„ „	5	10	0
„ „ (Alkali), 58% (bags)	„ „	4	10	0
„ „ (Soda Crystals)	„	3	0	0
„ Acetate (ex ship)	„ „	17	5	0
„ Arseniate, 45%	„ „	24	0	0
„ Borate (Borax), Crystals	„ „	16	0	0
„ Bichromate	per lb.	0	0	3
„ Cyanide (100% basis)	„	0	0	7½
„ Chlorate	„	0	0	3½
„ Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
„ „ (74% C. Soda) „ „	„	10	15	0
„ „ (70% C. Soda) „ „	„	10	5	0
„ „ (60% C. Soda) „ „	„	9	5	0
„ „ (pure liq. 90° Tw.) „	„	4	15	0
„ 77/78% powdered (99% hydrate)	per ton	12	10	0
„ Bicarbonate (cwt. kegs)	„	6	15	0
„ Hyposulphite	„	6	5	0
„ Manganate, 25%	„	20	0	0
„ Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
„ Nitrite, 98%	per ton	29	10	0
„ Phosphate	„	9	5	0
„ Prussiate	per lb.	0	0	3⅜
„ Silicate (glass)	per ton	5	5	0
„ „ (liquid, 100° Tw.)	„	3	17	6
„ Stannate, 40%	per lb.	0	0	9
„ Sulphate (Salt-cake)	per ton	2	2	6
„ „ (Glauber's Salts)	„	1	15	0
„ Sulphide (crystals)	„	6	5	0
„ Sulphite	„	6	5	0
Strontium Hydrate, 100%	„	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
„ Barium, 95%	„	0	0	3½
„ Potassium	„	0	0	7
Sulphur (Flowers)	per ton	6	10	0
„ (Roll Brimstone)	„	6	5	0
„ Brimstone (Best thirds) (ex ship)	„	4	12	6
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	33	10	0
Tin Crystals	per lb.	0	0	11
„ English Ingots	per ton	162	0	0
Zinc (Spelter)	„	21	5	0
„ Chloride (solution 100° Tw.)	„	6	5	0
„ Sulphate, Crystal	„	7	10	0

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THE

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AND

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NOTICE.

Correspondents will please note that our Manchester address now is

Barton House,
66, Deansgate.

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

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Trade Advertisements, Announcements in the Directory Columns, and all Advertisements not prepaid, are charged at the Tariff Rates, which will be forwarded on application.

Advertisements intended for insertion in the current week's issue should reach the office by Thursday morning at the latest.

CURRENT TOPICS.

THE NEW AUSTRALIAN TARIFF.

ELSEWHERE in this issue will be found the first part of a special abstract of the new Australian tariff proposals, so far as they affect the chemical and allied trades. The reception of the new tariff in this country has been a curious one. Manufacturers who anticipated large concessions in favour of British traders have been greatly disappointed, and, as will be seen from the figures themselves, the import duties on manufactured goods will, in future, constitute a very serious barrier to trade with the Australian Commonwealth.

British manufacturers are by no means alone in their concern at the increased tariff. We notice that the French Chamber of Commerce at Sydney has transmitted an emphatic denunciation of the new tariff to the French authorities at home. It is pointed out that the import duties are increased in enormous proportions, ranging from 25% to 80%; that on most manufactured articles from France the new duties are levied, even on products considered as raw material, and on goods necessary to industry, such as cream of tartar and tartaric acid; and, further, that the effect of the new tariff will be to build against French trade with Australia a tariff wall well-nigh impenetrable to external trade. The fact that the rates on British manufactures are slightly less than on foreign goods does not affect the situation in any material degree, and there can be no doubt that the tariff, unless considerably amended during its passage through the Commonwealth Parliament, will seriously diminish the volume of imports, both British and foreign, into Australia.

NITRATE OF SODA.

The September shipments of nitrate to Europe were 81,490 tons, and the quantity "loading" on October 1 was no less than 190,000 tons, compared with the official mid-monthly estimate of 102,900 tons. Although the imports were 18,680 tons less than in September, 1906, and the demand practically *nil*, the port deliveries are given as only 4,640 tons less than last year, and 10,980 tons *more* than in 1905. The "visible supply" comes out at 406,910 tons, compared with 383,080 tons a year ago, European stocks being 132,900 tons against 87,510 tons at September 30, 1906. Arrivals have been more numerous since the beginning of the month, the consequence being that the market weakness reported in our last issue has become more accentuated.

The leading Hamburg trade circular states that "business with inland consumers has for weeks past been at a standstill, and few transactions have taken place in refined nitrate, as only immediate requirements are filled." Prices are accordingly nominal in all positions, and speculative holders are anxious sellers without finding buyers. The

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cargo which arrived at Plymouth for orders on July 30 is still there eating its head off on demurrage; the stubborn owners, who might have got about 10s. 8d. per cwt., cost and freight, would now have to accept 10s. 3d., or less. As was to be expected, on account of the national holidays in Chili last month, the output of nitrate was smaller than in August, the estimate being 139,914 tons, against 160,959 tons; the shrinkage of 21,045 tons is, it must be confessed, somewhat startling, comparing as it does with one of 11,698 tons between the same two months last year; the output capacity has since enormously increased, while the available labour has certainly not diminished. Notwithstanding this paradoxical result, stocks on the West Coast have risen to the unprecedented total of 585,000 tons, against 555,000 tons a year ago, and nitrate for prompt shipment has fallen to 8s. 10d. (nominal) per quintal, f.o.b. At this time last year it was in strong demand at 9s. 7½d. Telegraphic advices received as we go to press state that the market is flat, with a lower tendency all round.

The general position, which is becoming interesting, will be reviewed at an early date.

THE AMATEUR IN SCIENCE.

At the opening meeting of the new session of the Manchester Literary and Philosophical Society, last week, Professor H. B. Dixon, M.A., F.R.S., the newly elected president, devoted his inaugural address to a consideration of some of the work recently done in chemical science, and especially that on the properties and reactions of gases at high temperatures. Reference was made to the work on radio-activity, with which was intimately associated the name of Professor E. Rutherford, whom they most warmly welcomed in their midst that evening as a candidate for membership; the brilliant work of Messrs. Barlow and Pope, by which the volency of the chemical atom had been connected in a definite manner with its volume in crystalline structures; and the researches of Professor Perkin on the formation and stability of various carbon rings, more particularly those on the camphor and terpene series, which were crowned by the discovery of processes for the synthetical preparation of camphor and of terpene in the laboratory. The speaker then dealt at greater length with the work in which he was most interested personally, and with which many of his own researches were connected, viz., the propagation of the explosion wave in gases; the direct determination of the specific heat of carbonic acid gas; the temperature of the ignition points of gases, and the redetermination of the atomic weight of chlorine. In the latter part of the address, the President made a few remarks on some matters more directly concerning the society and its proceedings. "Our membership," he said, "is not so large as it once was, and I have heard more than once in the last ten-years dismal forebodings of imminent decay. We may have been too conservative towards new ideas; we may have been too slow to meet the changing conditions of the city's life; we may have leaned too much to philosophy and too little to literature, but I am convinced that as a scientific society there is nothing vitally wrong with us. Those who have been connected with this society for many years cannot help noticing the gradual change which has come over our *personnel*. One of the oldest and most devoted members, the late Dr. Schunck, in his farewell letter to the society, deplored the increase of the professional element and the disappearance of the amateur. I would respectfully join in that regret.

"I suppose, as the sciences become more specialised, and as measurements become more refined and the instruments needed more costly, the amateur may feel that he cannot keep pace with those who devote their lives professionally to such studies in institutions equipped at the public expense or at that of the pious founder. There is some reason for this feeling; but I think there is none for another feeling which I believe exists—that professional men of science are jealous of the amateur, and by a conspiracy of silence or contempt seek to obscure his merits and so maintain their own prestige. Does not the amateur bring to our discussions a freshness of ideas which more than compensates for any possible defect of critical judgment? I know that I am very grateful for ideas received in this meeting-room, and I feel sure that many of our members feel similar gratitude. I would, then, plead for the cultivation of the amateur. There is another connected danger which I have heard threatens us. The society is being swallowed up by the University. Speaking as a member of that University, I would only ask, 'Why should we?' We surely have enough lecturing to satisfy our professorial zeal; we are not ambitious to re-start evening classes—unpaid. I think I speak for all my colleagues when I say that we come here because this society knows no distinction among its members, who meet on a perfectly equal footing, whether professors or manufacturers, professional men or students, because criticism is informal and open to all; because it is advantageous that we should have mutual interchange of experience and ideas—especially between men of the laboratory and men of the works; and because it is our pride to maintain as best we may the tradition of this spot, hallowed by the fame of those achievements that know no wane."

GOLD PRODUCTION IN RUSSIA.

The quantity of gold smelted in Russia in the first six months of 1907 is tabulated in *Soloto y Platina* as follows:

Laboratory (Treasury).	Slimes.			Alloys.			Pure.		
	Poods.	Funt.	Sol.	Poods.	Funt.	Sol.	Poods.	Funt.	Sol.
Blagoveschtchensk	233	19	64	227	14	84	Not given		
Bodaibin	343	6	52	335	32	12	305	6	56
Irkutsk	107	11	67	104	20	56	93	36	20
Krassnoyarsk	15	32	20	15	4	37	13	22	75
Nikolaieff	31	24	51	30	28	2	25	39	19
Tomsk	43	2	87	41	13	31	33	31	94
Ural	48	18	6	47	16	14	32	30	83
	822	35	9	802	9	24	501	7	59
							For six laboratories only.		
Private.									
Nikolaieff (Russo-Chinese) Bank. Up to March only	3	28	68	3	22	90	Not given		

September Trade Returns.—The Board of Trade Returns for September show an increase of £281,441. in the imports during September, the figures for the month being £45,341,276., against £45,059,835. in September, 1906. The total exports during September were £35,156,320., against £30,525,153. in the corresponding month of last year, an increase of £4,631,167. Our monthly tables and summary will appear next week.

Photography at the Polytechnic.—Special courses of instruction in photography have been arranged in connection with the Polytechnic, Regent-street, W., during the forthcoming session, which opens on Tuesday next, the 15th inst. The syllabus contains many features of interest. Instruction will be given in tri-colour work, the control of gradation, presswork, screen negatives (the apparatus for which, we notice, is supplied by Messrs. John J. Griffin and Son, Ltd., of Kingsway), bromide enlarging, portrait operating, re-touching, finishing, photo-engraving, etc.

Germany's Method of Promoting Trade in Foreign Countries.—United States Consul General Richard Guenther writes from Frankfort that the German Government is being heartily endorsed for sending experts to foreign countries to study trade conditions. At the convention of the Associated German Machine Builders the following resolution was adopted:—"This Association has noticed with great interest the recently published report of the commission of experts sent by the Imperial German Government to Roumania in order to study trade conditions of that country. This Association thanks the Imperial Minister for taking up this course of sending abroad experts for the purpose of benefiting German industries, and it prays that the Government continue this course." German trade papers in publishing the foregoing resolution also comment favourably upon this governmental move, and recommend that the Federal legislature annually vote grants for providing for the sending abroad of commissions of this kind.

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THE NEW AUSTRALIAN TARIFF.

We give below a special abstract of those portions of the new tariff proposals of the Australian Commonwealth which are of interest to our readers. These proposals were introduced by the Federal Treasurer in the Commonwealth House of Representatives on August 8, and take effect from the date of introduction.

The proposed tariff provides for preferential rates on certain goods, the produce or manufacture of the United Kingdom, imported into the Commonwealth. The Australian representative in London points out that the tariff has yet to be considered by the Commonwealth Parliament, and that the present printed schedule cannot be accepted as final, as considerable alterations may be made during its progress through Parliament. Our abstract is prepared from a supplement to the *Board of Trade Journal* containing the full text of the tariff.

Tariff Items.	Old Rates. (British and Foreign Goods).	New Rates	
		General Tariff.	Tariff on Goods the Produce or Manufacture of the United Kingdom.
Amylic alcohol and fusel oil per gallon	14s.	14s.	14s.
Collodion .. .. per gallon	3s.	3s.	3s.
Spirits denaturated, or to be denaturated in accordance with departmental by-laws prior to delivery; and being not less than 65 o.p. .. per gallon	1s.	1s.	1s.
Sulphuric ether and other ethers, n.e.i. :—			
(*a*) Containing 5% and more of proof spirit, per proof gal.	14s.	14s.	14s.
(*b*) Containing less than 5% of proof spirit	Free	Free	Free
Glucose .. .. .. per cwt.	8s.	8s.	8s.
Invert sugar and invert syrup, including brewers' priming sugars .. .. per cwt.	10s.	6s.	6s.
Candles, tapers, and night lights :			
(*a*) Paraffine wax, wholly or in part .. .. .. per lb.	1d.	2½d.	2d.
(*b*) N.E.I. .. .. per lb.	1d.	1½d.	1d.
Stearine, paraffin wax, beeswax, and Japanese or vegetable wax per lb.	½d.	1d.	1d.
Canambria and ceresine per lb.	½d.	1d.	1d.
Mixed or compounded waxes, liquid or solid .. .. per lb.	Not tariffed.	1d.	1d.
Egg albumen, dry .. per lb.	6d. per doz.	2s.6d.	2s.6d.
Linseed .. .. per cental	2s.	2s.	2s.
Linseed for the manufacture of oil and cake under departmental by-laws	Free	Free	Free
Linseed meal .. per cental	4s.	4s.	4s.
Linseed cake & oil cake per cental	1s.	1s.	1s.
Matches and vestas of all kinds—			
(*a*) In boxes containing 100 or less of matches or vestas per gross of boxes	6d. per gross of boxes (each box containing 100 matches or vestas or part thereof)	1s.9d.	3s.9d.
(*b*) In boxes containing over 100 but not exceeding 200 matches or vestas per gross of boxes		3s.6d.	3s.
(*c*) For each additional 100, or portion of 100 matches or vestas per box, an additional duty .. per gross of boxes		1s.9d.	1s.6d.
(*d*) When in boxes with matter thereon advertising any commodity other than the matches contained therein, in addition to the duties set out in (*a*), (*b*), (*c*) above per gross of boxes		7d.	6d.

Tariff Items	Old Rates. (British and Foreign Goods.)	New Rates.	
		General Rates.	Tariff on Goods the Produce or Manufacture of the United Kingdom.
Copra	Free	Free	Free
Anatto, liquid and solid, in packages over 1 lb.	Free	Free	Free
Isinglass—			
(*a*) In sheets	Free	Free	Free
(*b*) N.E.I. .. .. ad. val.		15%	15%
Salt—			
(*a*) Brown or dark red rock..	Free	Free	Free
(*b*) N.E.I., including pink rock per ton	12s. 6d. per ton	20s.	20s.
Soap .. .. ad val.	Perfumed &c., 3d. per lb. Other kinds ½d. per lb.	25%	25%
Sparklets, for making aerated waters	Free	Free	Free
Starch, and dextrine .. per lb.	2d.	2½d.	2d.
Bags for salt, gypsum & manure	Not tariffed		
Lead, sheet and piping per ton	Free	50s.	50s.
Crucibles	Free	Free	Free
Tanks containing goods, or empty —For every 100 gallons capacity or part thereo.. ..	Free	3s.	3s.
Zinc refining retorts	Free	10%	Free
Electrical materials, viz.—			
Accumulators or storage batteries	Free	5%	Free
Ammonia condenser coils, and coils for sugar boilers and the like; corrugated cylinders for boilers .. .. .. ad val.	Not tariffed	25%	25%
Aluminium bronze, yellow metal, Britannia metal, nickel, and German silver, viz.—Pigs, ingots, scrap, blocks, bars, strips, sheets (plain), plates (plain), pipes (plain), and tubes (plain)	Free	Free	Free
Anodes and hooks for plating purposes	Free	5%	Free
Brass, viz.—Scrap, bars, sheets (plain), pipes (plain), tubes (plain), and strips	Free	Free	Free
Copper, viz.—Strips, scrap, bars, rod, wire, sheets (plain), pipes (plain), and tubes (plain) ..	Free	Free	Free
Cylinders for anhydrous ammonia and for gas	Free	5%	Free
Platinum, viz. — Bars strips, tubing, pipes, sheets and plates	Free	Free	Free
Retorts, pans, condensers, cylinders and other articles used in the manufacture of acids and in laboratories, and made of platinum	Free	5%	Free
Scales, viz., chemical, analytical, and assay, including weights; and precision and physical balances	Free	Free	Free
Zinc, viz.—Bar, scrap, sheet (plain), and circles and ingots bored or unbored for cyanide gold process, and zinc sheets (perforated with round holes of less than ⅛ of an inch diameter) for meat safes and covers ..	Free	Free	Free
Iron, plate and sheet, viz.— ..			
(*a*) Corrugated galvanized ad val.	10%	30%	25%
(*b*) Galvanized not corrugated, and corrugated not galvanized .. .. .. ad val.		25%	20%

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Tariff Items.	Old Rates. (British and Foreign Goods.)	New Rates. General Rates.	New Rates. Tariff on Goods the Produce or Manufacture of the United Kingdom.
Blacking; including dressings, pastes, and polishes for leather; furniture oils, pastes and polishes; and bronzing and metal liquids .. .. ad val.	20%	40%	35%
Graphite or plumbago, black lead, and foundry black, in bulk	Free	Free	Free
Tallow and greases—			
(*a*) Greases; including axle grease, and tallow unrefined, in packages not exceeding 4 lbs. in weight .. per cwt.	4s.	4s.	4s.
(*b*) In packages exceeding 4 lbs. in weight .. per cwt.	2s.	2s.	2s.
Oils—			
In vessels not exceeding one gallon, viz.			
(*a*) Quarter-pints and smaller sizes .. .. .. per doz.	6d.	1s.6d.	1s.6d.
(*b*) Half-pints and over quarter-pints .. per doz.	1s.	3s.	3s.
(*c*) Pints and over a half-pint per doz.	2s.	6s.	6s.
(*d*) Quarts and over a pint per doz.	4s.	12s.	12s.
(*e*) Over a quart .. per gal.	1s. 4d.	4s.	4s.
In vessels exceeding one gallon, viz.—			
(*f*) Cotton seed .. per gal.	2s.	2s.	2s.
(*g*) Cotton seed when denaturated as prescribed by departmental by-law per gal.	6d.	6d.	6d.
(*h*) Olive .. .. .. per gal.	1s. 4d.	2s.	2s.
(*i*) Castor; colza; linseed per gal.	6d.	6d.	6d.
(*j*) Lubricating (Mineral)* per gal.	3d.	3½d.	3d.
(*k*) Mineral n.e.i.; naphtha; benzine; benzoline; gasoline; pentane; petrol; turpentine substitutes; and the like per gal.	Mineral n.e.i. 3d., other ½d.	¾d.	½d.
(*l*) Solar oils and residual oils† per gal.	¼d.	¼d.	¼d.
(*m*) N.E.I., including cloth oil per gal.	6d.	6d.	6d.
(*n*) Castor oleine and other saponifiable oils .. per gal.	6d.	6d.	6d.
(*o*) Kerosene and other refined petroleum oils, in packages less than 10 gallons in content .. .. .. per gal.	Free	3d.	3d.
(*p*) Kerosene, and other refined petroleum oils, n.e.i...		Free	Free
Oils in bulk or otherwise, viz.— Birch tar oil; pine; fir tree; unrefined fish oils; China oil when denaturated as prescribed by departmental by-law; seal; whale; penguin; petroleum (crude); degras; sod; wood naphtha; mirbane; and turpentine.	Free	Free	Free
Paints and colours, viz.—			
(*a*) Ground in liquid per cwt.	2s.	4s. 6d.	4s.
(*b*) Prepared for use, including tattoo oil .. .. per cwt. or ad val.	4s.	6s. 9d. 25%*	6s. or 20%*
(*c*) Colours, dry, n.e.i. per cwt.	1s.	3s.3d.	3s.
(*d*) Dry white lead; patent dryers and the like; and putty .. .. .. per cwt.	1s.	2s.3d.	2s.
(*e*) Barytes .. .. per cwt.	Not tariffed	2s.	2s.
(*f*) Whiting .. .. per cwt.	6d.	6d.	6d.
Varnishes; varnish and oil stains; lacquers; enamels; enamel paints and glosses; Japans; Berlin and Brunswick blacks; liquid sizes; patent knotting; oil and wood finishes; petrifying liquids; damp-wall compositions; lithographic varnish; printers' ink reducer; terebine; liquid dryers; and gold size .. .. ..per gal. or ad val.	1s. 9d.	2s. or 30%†	2s. or 30%†
Liquid removers of paint and varnish .. .. .. ad val	Not tariffed	15%	15%
Blacks, being lamp, ivory, bone, or vegetable, and litharge; London purple and Paris green; prepared glazes for pottery; sulphate of copper; ultramarine blue; ceramic colours; artists' colours; dyes, dry or in paste, in bulk for manufacturing purposes .. Vandykes; manganese; Paris white; vermilions; crayons	Free	5%	Free
Portland cement, plaster of Paris, and other like preparations having magnesia or sulphate of lime as a basis; also gypsum per cwt.	Not tariffed	5%	Free
Scientific apparatus, porcelain, viz. Crucibles, tubes, pressure filters and evaporating dishes for laboratory use	9d.	1s.	9d.
Earthenware, brownware, and stoneware, n.e.i., including crucibles, scorifiers, & muffles ad val.	Crucible scorifiers and muffles, free: other, 20%	Free 35%	Free 30%
Asphalt mastic .. .. ad val	Not tariffed	15%	15%
Scientific apparatus (glass) viz.— Beakers; flasks; test tubes; vacuum tubes; burettes; weighing bottles and tubes; eudiometers; nitrometers; radiometers; fat extraction tubes; filter pumps; gas washing reduction absorption and drying bulbs, towers and tubes; glassware graduated in centimetres, grains, minims, ounces, and grammes; also carbonic acid, sulphuretted hydrogen, decomposing water and bacteriological apparatus of glass	Free	Free	Free
Glue; gelatine of all kinds; and cements, n.e.i.; including mucilage and belting compounds .. .. .. ad val.	Sheet gelatine 2d. per lb. other 20%	40%	30%

* An admixture not exceeding 2 per cent. of any vegetable or animal oil or other foreign matter, shall not be deemed to render the oil liable to any higher duty.

† When the Department is in doubt as to the exact nature of any oil so described it shall be denaturated in accordance with the Departmental By-law.

* Whichever rate returns the higher duty.
† Whichever rate returns the higher duty.

(*To be continued.*)

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ELECTRICAL POWER FROM BLAST FURNACES.

THE provision of cheap electrical energy, from whatever source it may be derived, is a subject of great interest to manufacturers. In a paper read before the autumn meeting of the Iron and Steel Institute, held on September 23rd and 24th, at Vienna, Mr. B. H. Thwaite dealt with "The Economic Distribution of Electric Power from Blast Furnaces."

Mr. Thwaite observed that until recently, blast furnaces, where associated with steelworks and rolling mills, had never derived the full chain of possible benefits, owing to the fact that heavy rolling mills could not be electrically harnessed. The successful solution of this problem—due to the enterprise of Continental electrical firms—was a fact of great economic significance.

Before the date of the actual proof that waste gas from blast furnaces could be directly converted into power with an expenditure of seven to eight thousand British thermal units per indicated H.P., the waste of energy involved was a matter of indifference, as the waste of heat approximately balanced the supply; but now that it was known how valuable this gas had become, the waste of fuel was inexcusable. Unlike the blast furnace, the rolling mill may or may not remain steadily employed. During a non-operating period the blast furnace gas is set free or blown into the air. This waste of fuel may be cut down almost entirely by the application of the pooling system, which involves the displacement of steam by gas power. The objection advanced against this gas power electrification is the heavy expenditure it involves, and, unless removed as reduced, will confine the advantages of application to firms of immense financial resources. If, however, it can be shown that it is possible to reduce the capital investment to the amount necessary to provide the equipment of the new rolls with electric motors, as distinct from the electric generators, and that such an investment would be financially justified, the objection would be considered as of no deterrent consequence.

The basis of the programme is to pool the waste furnace gases from all the furnaces of an iron-making district independently of their ownership. The energy (electrically transformed) would be transmitted to a central distributing and transforming station, where the current would be transformed to the voltage required to satisfy different customers.

The first call on this power would, of course, be the satisfaction of the internal demands of the iron and steelworks, the balance of power remaining being available for external distribution over a wide area of yearly increasing extent. The proposed pooling programme would be provided by a separate joint-stock electric power organisation, except that a proportion of the output would be preferentially allocated to the satisfaction of the power demands of the iron and steelworks from which the gases were drawn. The balance could be transmitted to any group of customers whose power demands justified the cost of distributing mains, but a more appropriate field of demand for an all-the-year supply would be the satisfaction of the electric energy requirements of the many profitable electro-chemical and electro-fusion processes described by the author in a former paper. Amongst these processes are the production of high-class steel, special alloys, and carbides (silicon and calcium).

As an example of the kind of power demands that would be found in an average field of industrial operations, the following would represent a German district for which the pooling system was outlined:—For the coalmines in the district, 1,300 E.H.P.; chemical (metallurgical) requirements, 2,500; electro-chemical requirements, 1,500; works and town electric lighting, 500. In large districts, the power-driving requirements of the factories would provide a demand running into thousands of horse-power; by the pooling system, also, the tall stacks of furnaces would become centres from which would radiate the benefits of the cheap power, and the advantages would be reciprocated.

The flexible demand for power—the aim of the power organisation—would be appropriate for the intermittent periods of mill idleness. Another argument in favour of the pooling policy would be the fact that some four to five thousand kilowatts of energy was the minimum demand of many of the most desirable of the electro-chemical and other operations, so that in a single works it was impossible to secure this output of electric energy; whereas, by pooling the available power from several works, this power could be obtained with little change from existing conditions. The following table gives an impression of the power available from several works in a district, without any change of plant and operations, to secure the fullest possible economy of the waste gas:—

	Kilowatts available for external services.
District A, one furnace always available.. ..	1,490
District B, two furnaces	2,700
District C, one furnace	1,700
Total available	5,890

The axiom that unity is power could hardly be more appropriately demonstrated than by the pooling of the power from the furnaces of several works, which, individually, would be too small to justify the establishment of a central distributing station and its associated transmission mains.

The advantages of the pooling policy would depend largely on the individual circumstances of different works. During about 23% of the total hours of one week, the mills would be standing and the power waste during this idle period would be available. The change in the Board of Trade's attitude towards electrical transmission makes the pooling policy more economically desirable in England than it would have been when the Government department insisted that the electric main should be placed underground. Transmission by aerial cables means a reduction in cost—compared to underground transmission—of one-fifth. The following comparison, between the original proposition of 1892 and the state of affairs to-day, may be quoted as an example of the progress in power-generation and transmission systems:—

Year.	Unit power of gas engine.	Thermal efficiency.	Electric generators.	Pressure of transmission line.	Economic distance.
	Brake Horse-power.	Per cent.	Kilowatts.	Volts.	Miles.
1892....	300	20	1 500	20,000	100
1907....	3,000	30	10 000	88,000	250

The harnessing of the gas engine to the blast furnace resulted in the almost immediate increase of its unit power-capacity proportions. The author was prepared to design a 2,000 indicated horse-power single unit multiple cylinder blast furnace gas engine in 1899. The fly-wheel type of electric alternating current generators of immense capacity assisted in the gas engine increased power-unit evolution. The foregoing tabulated improvements all pointed in the direction of the policy of pooling or concentration of the power output. The pooling policy would eventually displace steam by gas-electric power for blowing and other furnace requirements, for driving the rolls in the mills, and for satisfying the general power requirements, and would lead to the suppression of all preventable wastes in the use of furnace gases.

To recapitulate the advantages of pooling. It would facilitate the electrification of the rolling mills by reducing cost of plant; it would secure an increase in the proportion of the furnace power gas; it would secure an all-round benefit to the iron-master and the power consumer, and tend to promote the establishment of new electrical industries; further, it would financially justify expenditure in apparatus and on technical changes to secure the fullest possible economy in the use of furnace gas in the works. With the exception of water-power, no other system of power generation is so economical to the ironmaster as the gas engine which, in association with a high-class generating machine, can develop the hours of a kilowatt year for 66s. 8d., assuming that no charge is made for furnace gas.

Nitrate Statistics.—The Permanent Nitrate Committee, in their public statistical circular for October, state the shipments of nitrate of soda as follows:—(1.) Total exports to Europe, September, 1,802,700 quintals. (2.) Imports, Europe, September, 52,880 tons. (3.) Deliveries, Europe, September, 58,920 tons. (4.) Visible supply, Europe, 1st October: Stocks and afloat, 406,910 tons.

Silicate Co., Ltd.—Registration has been made of two debentures dated September 17, 1907, to secure £1,000. and £1,600. respectively, charged on the company's undertaking and property, present and future, including uncalled capital. Holders: F. Greaves, Molyneux, Wetherell, Hemel Hempstead, and A. Fielding, Stoke-on-Trent.

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THE INDIGO MARKET.

THE United States Consul-General at Rotterdam, in discussing the course of the Dutch market, states that 1906 witnessed a strong rise in prices for Java indigo. The year's crop was a limited one, but, owing to most buyers only wishing to buy on sample, which can be done in the Dutch market, the demand was good. For the best quality "warm process of manufacture," $1.20 per half-kilo. was on one occasion paid. The first-hand supply was entirely sold off, while the lots which were still to be had from the second-hand supply could be disposed of at very profitable prices. The quality was good in 1906, and the assortment, considering the small offers, satisfactory. As the lots bought were exclusively destined for purposes for which the article could not be replaced, little or nothing was heard in 1906 of the artificial product; but even for these special purposes the lots bought on the market did not suffice; hence the arrivals of the new crop are awaited with great interest.

The indigo crop acreage in the East Indies has come to a standstill. Although the management of some plantations have deemed it best to stop the cultivation, others have, on the other hand, again commenced to plant. At present, 35 plantation enterprises produce indigo. The arrivals, sales, and supplies in cases during the last two years, compared with those of ten years ago, were as follows:—

Year.	Rotterdam.			Amsterdam.		
	Imports.	Sales and transit.	Supply December 31st.	Imports.	Sales and transit.	Supply. December 31st.
1897	4,062	3,211	2,165	5,180	4.774	1,576
1905	1,154	2,468	378	893	1 431	327
1906	610	988	..	425	752	..

After the small crop of Bengal indigo was sold in January at Calcutta at augmented prices, the article was for a long time influenced by reports that the next crop would be larger again owing to an increase of the cultivation. During the summer large inundations occurred, and owing thereto the crop did not amount to 40,000 maunds (maund = 82.14 pounds), as originally estimated, but to only 24,000 maunds, while the 1906-7 crop is estimated at about 28,000 maunds. The consumers, who had waited long before purchasing, bought in the fall in London, where lots could be regularly disposed of at increased prices and where the supply is now small. The December prices at Calcutta were for the good to the fine qualities of Bengal and Tirhoot indigo from 140 to 170 rupees per maund, which is equal to 80 cents to $1. per one-half kilo (1.1) pound delivered in Europe. The crops in British India in maunds were: In 1906, 24,000; 1905, 20,000; 1904, 35,000; 1903, 58,000; 1902, 43,100; 1901, 85,100; 1900, 111,700.

CINCHONA BARK.

WHILE the demand for cinchona was at the beginning of 1906 far from favourable, during the year the course of the market was better than expected. The great supply with which the year commenced was, with what was imported into Holland during the year from Java, mostly sold at satisfactory prices, and at the last two auctions the value of the unit was augmented by more than 1 Dutch cent ($0.004). The extraordinary large sales were due to the fact that consumers were in need of quinine. Nobody had confidence in the tendency of the market in 1905. It was felt that a change had to come, and everyone therefore bought as little as possible. When the fixed price limit was discontinued, quinine orders came in lively, and in the January auction of 1906 the bark could be sold at reasonable prices. A second cause, according to a United States Consular report, was that the Amsterdam quinine factory had retired from the convention and commenced to hold quinine sales. Quinine prices retrograded to a figure unheard of before. The first auction held in January opened with an average unit price of 1.6 cents, against 1.9 cents in the last auction of 1905. The price fluctuated during the year and closed at 1.72 cents. In 1906 there arrived 6,346 packages of Government and 68,141 packages of private cultivation, against 5,758 and 84,642 packages respectively, in 1905. In auction and otherwise were sold 93,049 packages (88,519 bales and 453 cases), weighing together 18,794,197 pounds, containing, according to analysis, 1,023,931 pounds of sulphate of quinine, while the figures for 1905 were 13,420,656 pounds of cinchona bark and 680,277 pounds of sulphate of quinine, and in 1904, 16,856,019 and 814,392 pounds, respectively.

From the cinchona bark sold in auction, 15,863,225 pounds were factory bark, containing 918,559 pounds quinine, and 2,386,058 pounds were pharmaceutical bark, containing 73,949 pounds of quinine. The average unit value was for factory bark, 1.724 cents per one-half kilo, against 2.885 cents in 1905 and 2.6 cents in 1904. The following quantities of the several kinds of cinchona bark were sold at auctions:

Description.	Cinchona bark.		Sulphate of quinine.	
	Government crop. Pounds.	Private crop. Pounds.	Government. Pounds.	Private Pounds.
Ledgeriana ..	1,447,008	11,097,260	—	—
Hybrides ..	—	3,289,110	—	825,524
Officinalis ..	11,517	14,817	93,036	—
Schuhkraft ..	3,502	—	—	—
Succirubra ..	248,813	2,137,245	7,075	66,873
	1,710,840	16,538,432	100,111	892,397

The cinchona bark shipments from Java were, from December 1, 1905, to November 30, 1906, 14,403,100 pounds, against 15,807,000 pounds in the previous twelve months. The first-hand supply of Java cinchona bark was at the end of the year: Government crop, 5,575 packages, and private crop, 15,061 packages. The prices of the Amsterdam quinine factory retrograded slowly from $6.80. and $8. to $4.90. and $6. per kilo (2.2 pounds) and were, at the end of the year, $6.10. per kilo for *Ed. II.* and $7.20. for *Ed. IV.* The Amsterdam quinine factory marketed in 12 auctions, in 1906, various lots of *Sulfas chinine Pharm. Germ. Ed. IV.* of which the *Ed. II.* was mostly sold easily, except in the auction of December 28, when the lots offered were not granted the highest bidder.

Continental Notes.

IN the *Chemiker-Zeitung* for September 25, F. E. Polzenlusz gives the results of investigations concerning the absorption of nitrogen by calcium carbide, and the manner in which the reaction is accelerated by the presence of other substances, such as calcium chloride. He finds that the only calcium compounds that are able to assist the absorption are those that contain no oxygen and have a comparatively low melting-point, and consequently are partly dissociated during the ignition. Other halogen compounds, such as those of the alkalies and iron, only act by forming a certain proportion of the corresponding calcium salt. He considers it probable that the calcium of the halogen salt first forms nitride, and that this is afterwards converted into cyanamide.

In the same issue, P. Philosophoff describes a method for the analysis of electrolytic chlorine, chloride of lime, and bleaching liquor. The chlorine is first determined in the gaseous mixture by absorption with metallic mercury, and the carbon dioxide is then estimated in the usual way by measuring the diminution of volume on treating with caustic potash. The method is very rapid and satisfactory.

A. Ricevuto gives the results of an analysis of the metal used for the construction of the pans of the Hartmann and Benker concentrating plant for sulphuric acid. This is stated to be an alloy of iron and manganese, but the author finds that it is an alloy of iron and silica, containing 9.24% Si, 0.526% P, and 0.80% S. It is very little attacked by boiling 92% sulphuric acid. It also resists the action of nitric acid fairly well, but is somewhat affected by hydrochloric acid.

The recent improvements effected in colour photography by the brothers Lumiére form the subject of a communication by Dr. G. Hauberrisser. The advantage of the process is that only one plate is required, instead of three, as in the three-colour process. These auto-chromatic plates are prepared by first laying on them a layer of starch granules, some of which are coloured green, some blue, violet, and some red. The granules must be equal in size, and must cover the glass without lying one over the other, an object which is accomplished by pressing. Any interspaces that still remain are filled with a black powder. This starch layer is protected with a coat of varnish, and then a very thin panchromatic silver bromide emulsion is applied. The plate is exposed with the glass side towards the lens, and in order to correct the greater sensitiveness of the silver bromide

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to violet and ultra-violet rays a special yellow screen is used. This plate is developed and treated with special solutions, so as to convert the negative into a positive. When finished, the natural colours are seen in all their brilliancy, and the plate can be used as a transparency or a lantern slide. It has not yet been found possible to make satisfactory prints on paper. It is very important that the time of exposure of the plate be correct.

In the same issue of the *Chemiker-Zeitung*, and the next one, for September 28, Dr. A. Salmony treats of the manufacture of white lead by the Bischof process, as carried out at Brimsdown. Although he admits the ingenuity and comparative healthiness of this method of manufacture, he does not consider that it can be made remunerative. He gives details of the various stages of the process: the conversion of the pig lead into oxide, the reduction of the higher oxides to Pb_2O, the hydrating of the oxide, its conversion into basic oxide by means of carbon dioxide, and the grinding of the white lead with oil. Diagrams are given of some of the plant employed.

In the issue of September 28 there is also a note by A. Steinmetz, on the production of acetic acid. In view of the high price of acetate of lime, he recommends its preparation from maize malt. This is subjected to fermentation, and the alcoholic liquid thus obtained is converted into vinegar in the usual way by acetic fermentation; this is then neutralised with lime, and any unconverted alcohol is distilled off. The recovered alcohol is returned into the process, and the acetate of lime solution is evaporated to dryness. The product obtained is very superior to the ordinary grey acetate of commerce, as it is free from empyreumatic substances, and contains 90 to 95% of calcium acetate, according to the purity of the lime used. The acetic acid is then made by distilling with sulphuric acid. The author claims that under present conditions this process is considerably cheaper than manufacturing from commercial grey acetate.

In the issue of October 2, Dr. Anton Seyda discusses the present state of modern chemical cleaning and its hygienic importance. The use of benzine and benzol for cleaning articles of clothing has led to the creation of an important industry, and this has been further helped by the discovery of a soap readily soluble in the benzine. The addition of this greatly increases its solvent power, and has the further advantage that it decreases the danger of fire through electrification.

GRAPHITE PRODUCTION.

ONE of the United States Consuls in Canada says:—One of the most important electrical industries at Niagara Falls, Ontario, manufactures graphite from anthracite coal and petroleum coke, and converts into graphite the forms of raw carbon used in electric furnace work, where high temperature is required, and for electrolytic work, such as the manufacture of caustic soda, bleaching powder, etc. The raw materials used consist of anthracite coal, glass sand, foundry coke and sawdust, all of which are imported from the United States, except the sawdust.

The furnaces used for the conversion of the coal are in the form of long, narrow troughs, built of fire brick and lined with some suitable refractory or insulating material. In this case the sand, coke, and sawdust are used for insulating, by mixing them together in the proper proportions. At the end of each trough is a terminal built of carbon rods, to which is connected the cables conveying the current. The trough is filled with anthracite coal, in which is embedded a carbon rod to make electrical connection between the terminals, as the coal is a poor conductor of electricity. The temperature to which the coal is raised before conversion into graphite is very high—approximately 7,500° F.—a temperature at which all bodies except carbon are vaporised and driven off.

The graphite can be made practically chemically pure, but for ordinary commercial purposes such a high degree of purity is unnecessary, but it is possible to so regulate the operation that a degree of uniformity of purity is attained which is not possible to secure in the production of natural graphites. When the furnace has cooled sufficiently the graphite is removed, but it is not yet in commercial form and has to be ground to powder and finally separated into the sizes necessary for the various uses to which graphite is put.

During the year 1906 upward of 454,311 pounds of graphite were manufactured, the greater part of which was exported to the United States. The demand in Canada, though steadily growing, has not warranted the construction of a complete grinding factory such as would be necessary to make all the forms and grades ordinarily required in the trade. This graphite is not a mined product, and in comparison with the production thereof the quantity mined in Canada is surprisingly small, the report for 1905 showing that only 541 short tons were mined, valued at $17,032., while the value of artificial graphite for 1906 was $21,579.

WOLFRAM.

[FROM A MINING CORRESPONDENT.]

THE Carrock Mines, near Mungrisedale, Cumberland, have been sold to the Cumbrian Mining Co., Ltd. The same company have acquired several other old mines on the Caldbeck Fells, which have been repeatedly worked by a number of companies, chiefly for lead, blende, and copper. The Carrock Fell Mines are now raising wolfram, and also scheelite. The ore was tried some years ago by Mushet, the inventor of the Mushet or self-hardening steel. The demand for wolfram and scheelite is increasing, and the Tasmanian mines are now exporting larger quantities to the Continent and elsewhere. Discoveries are also reported on the Tugela, Rhodesia, and in New South Wales. Nova Scotia, Cobalt (Canada), and Minnesota are also producing the ores. Meantime the demand is ahead of supplies.

Cornwall and Devonshire are being explored, and in both counties valuable deposits are probable. The Cornish mines have produced the ores associated with tin, but until the last ten years steel manufacturers and other consumers were sceptical as to the benefits of the self-hardening steels. Mushet considered himself hardly dealt with by the Sheffield steel workers. His inspection and experiments with the Carrock ores were not satisfactory, and it is very probable that the analysis was misrepresented. At any rate, Mushet wrote adversely as to its phosphoric contents, which he considered prohibited its use. The more recent analysis is stated to show a very rich ore, free from phosphorus and sulphur, and remarkably high in acid. The new company are putting down plant to deal with the ore, which is found in the quartz.

Carrock Fell is partly Gabbro and Syenite, and upon the Fell 27 metallic and non-metallic ores are found. The district has been mined for hundreds of years, but until recently the ores of wolfram were unworked. In the Eskdale range prospecting for wolfram is in hand, and rich ores are stated to have been found. The deposition is erratic, and, like plumbago, there is frequently no "leads" or "strings," or other indications, the vein often "nipping out" and the ground being completely barren.

THE VAL DE TRAVERS ASPHALTE PAVING CO. announce an interim dividend at the rate of 5% per annum (6d. per share) for the six months ended June 30.

THE ANTIMONY MARKET.—A correspondent of the *Glasgow Herald* says:—"A smart turn for the better has become manifest in the market for antimony, the value of which was in recent months severely depressed. The price of English refined, which at one period stood at £35., has recovered to about £45. per ton. The improvement in the demand has been pretty general, exception made perhaps of the United States, whose stocks are credibly still plentiful. Should demands from that quarter develop to any notable extent this would of course help a further recovery, while the present price may be regarded as comparatively low. The chief inquiry lately has been for Germany, especially Hamburg, which is rather peculiar, since merchants there who months ago nursed stocks acquired at very high prices lost a good deal of money owing to the adverse course of the market. Crude antimony has risen to a corresponding extent, being now worth about £30., while offers from Japan and elsewhere are restricted. So far as Europe is concerned there is now no more question of unwieldy supplies, although Hamburg is again holding fair quantities both of crude and ores. English regulus is in fact scarce and now not offered under £45. by the chief refiners. Certain dealers who were so keen in depressing the market in the summer now appear to be rather short. Last year the price touched £125., so that the big drop has undoubtedly checked production, at least where low grade ores were treated in South America. Consumption as in some other metals may be more restricted than last year, but it is believed that during the late depression consumers' reserve stocks were allowed to run very low, which would now make for an increasing demand on the rise. There is a great scarcity of raw material, which is partly responsible for the recovering tendency, good ore, running 50%, being held for £14. per ton."

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Reports of Companies.

ASSOCIATED PORTLAND CEMENT MANUFACTURERS, LTD.

Presiding at the annual meeting of shareholders, held on the 27th ult., Mr. E. A. White said that the use of cement had increased, partly in consequence of the disasters in America. This had had a double effect. Not only had a larger amount of cement been shipped from this country, but the shipments to America from Europe had somewhat diminished the competition which British cement encountered in the markets of the world. He wished he could say that the home trade had been equally stimulated, but that was not the case. The building trade in this country was diminishing, but two directors had been to Canada and the United States, and opened up new business. Another director had been to Egypt, with good results, and another had gone to live permanently on the Pacific coast. The gross profits for the past year were £403,524., and this, after deduction of £138,619. for repairs and renewals, left a sum larger by £28,000. than last year. The directors had come to the conclusion that the strengthening of reserves was the clear duty of the company, and this course they urged on the shareholders as being in their best interests. They had a net sum of £180,092. to deal with, after depreciations and reserve, and proposed, after paying the final preference dividend, to carry forward £36,208., which was £23,656. more than last year. There was reason to expect a return of the past keen competition, and it was well to be prepared. All cement users and makers were prepared for higher prices.

The report was adopted.

CENTRAL CHILI COPPER COMPANY, LTD.

The report states that during the period under review, while high prices have ruled for copper, the company has been obliged to contend against rising prices in coal and coke, and for practically all the other commodities employed in its business. Exceptional difficulties have confronted the management owing to the continual scarcity and high price of labour. It was anticipated that this situation would be relieved by the despatch in December last to the property of some 300 Spanish miners. This experiment has not, however, yielded satisfactory results owing to the desertion of many of the miners, who were attracted to the nitrate fields in the north of Chile, where the economic conditions permit of paying a higher rate of wage than is possible at the company's properties. The Chilian Government is fully alive to the necessity of encouraging immigration, and there is reason to believe that the company's requirements in the near future will, at least, be partially met by miners recruited and brought to Chili at the expense of the Government. The profit for mining and smelting has, notwithstanding these adverse conditions, amounted to £32,467. Of this sum, after making provision for depreciation, interest on debentures, London expenses, etc., £24,202. has been carried forward to the accounts of the current year, and on May 31 there was paid a dividend, on account, of 5%, or 1s. per share, amounting to £15,623. The directors propose to carry the available balance of £8,578. forward. During 1906 just over 43,000 tons of ore were smelted for a return of regulus containing 1,857 tons of fine copper. The gold and silver recovered during the year were valued at £7,118. As in past years a large proportion of the copper produced was derived from ores purchased from the neighbouring mines at prices varying in proportion to the London prices for standard copper. The properties yielded 19,000 tons of ore of 3.86% copper, while there were purchased 24,200 tons of ore containing 7.42% copper. The quantity and grade of ore from the company's own mines and of the ores purchased having amounted to about the same as in 1905, the increased profit for 1906 has resulted partly from the higher price of copper which has ruled during the year, and partly from a more efficient management at Panulcillo. The realisable assets of the company on December 31, 1906, represented by stocks, debts due to the company, cash in hand and at bankers, and copper sold but not yet cashed, amounted to just over £100,000. Of the original debenture issue of £25,682. there now remains undrawn only £8,075., the whole of which it is anticipated will be paid off early next year, thus leaving the company free from encumbrance and in a position to apply its net earnings to the payment of regular dividends. None of the unissued shares which were under option have been called, and the options have now expired, while the issued capital remains at 312,468 shares.

FOLDAL COPPER AND SULPHUR COMPANY.

The report from January 27, 1906 (the date of registration) to February 28 last, states that the company has been engaged in equipping and developing the property. The ropeway, which is 21 miles in length and is capable of conveying 120,000 tons a year without being unduly worked, has been completed. The harnessing of the waterfall and the erection of the electric plant have been carried out, and the installation has worked satisfactorily. On account of the requirements of the buyers of the class of ore produced at the mine, who are mostly manufacturers of sulphuric acid, it is necessary to arrange contracts a long time before delivery, and during the past year the directors have given their careful attention to this matter, so that contracts have been arranged on satisfactory terms for almost the whole production of 1907, a considerable part of 1908, and some of the production of the following two or three years. With regard to the progress which has been made since February 28, the following particulars are given in the report :—Produced to date, approximately, 31,000 tons; shipped to date, approximately, 27,000 tons. The average of ore shipped, as per agreed assays to August 31, is :—Copper, 2.09%; sulphur, 48.12%. During the year a considerable amount of unexpected outlay had to be met, so that the directors some time ago realised that the working capital which was guaranteed and paid up was not sufficient, and they therefore issued a further 10,000 of the preferred ordinary shares at par, giving the option to the subscribers to call up to 30,000 of the remaining preferred ordinary shares at any time before February 28, 1909, at par.

NORTH BROKEN HILL MINING COMPANY.

For the six months ended June 30 last, the accounts of this company show a profit balance of £59,740. The directors have written off £16,224. for depreciation, and during the half-year two dividends were paid amounting to £42,000. The liquid assets of the company stand at £61,050. The mill treated 53,433 tons of ore, producing 9,327 tons of concentrates, the recovery of metal being, lead 75%, silver 54.6%, and zinc 9.2%

RIO TINTO CO., LTD.

The interim report states that the deliveries of pyrites in the United Kingdom have this year again been rather below those of former years; the Continental consumption is, however, higher than that of 1905 or 1906. The copper content of pyrites shipped to all markets has been about the same, while the consumption of non-cupreous sulphur ore is in excess of the previous year. The great and unprecedented drought in Spain has been a very serious anxiety to the board, and it was only by taking extraordinary measures that the company was able to continue all its operations. An additional reservoir is in course of construction. The output of copper, of course, suffered somewhat from the scarcity of water, though much less than might have been expected, and it is now hoped the year's output of fine copper at the mines will not fall short of 1906 by more than from one to two thousand tons. The board have no adverse news to convey to the shareholders regarding mining or other operations, all of which are in a satisfactory state. The price of copper was very high during the first few months of the year. In May and June, however, a crisis in financial affairs in America disorganised business generally, and consumers have since then not been purchasing as freely as formerly, a severe fall in the price of copper being the consequence. This company's output is, however, fairly well sold in advance, and the fall in the price of the metal will probably in itself have the effect of preventing any general over-production in the future. The directors now declare, out of the estimated profits of the year, a dividend for the six months ended June 30 of 2s. 6d. per share, less tax, on the preference shares, and an interim dividend of 47s. 6d. per share, free of tax, on the ordinary shares, both payable on November 1.

DIVIDENDS.

The British Aluminium Company announce an interim dividend of 3½%.

Salar del Carmen Nitrate Co.—The directors have declared an interim dividend of 20s. per share on account of profits for the current year.

The Neuchatel Asphalte Co. declare an interim dividend on the ordinary shares of 3s. per share, free of income tax.

California Oilfields, Ltd.—An interim dividend of 15%, payable (free of tax) 15th October, is announced.

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Our Book Shelf.

Denatured or Industrial Alcohol. By R. F. Herrick. Pp. 516. New York: John Wiley and Sons. London: Chapman and Hall, Ltd. 1907.

The subject of industrial alcohol is evidently attracting serious attention in the United States. In our last issue we noticed Mr. Brachvogel's work, in which he deals very fully with the German practice. Mr. Herrick's book, now before us, also presents an exhaustive summary of the present position as regards alcohol for industrial purposes and the methods of manufacture. In his preface, Mr. Herrick refers to the scarcity of literature dealing with this branch of technology; the publication of the present volume, together with that reviewed in our last issue, will to some extent remove this difficulty.

During 1906, the United States Congress passed regulations permitting the general use of tax-free domestic alcohol, suitably denatured, for industrial purposes (light, heat, and power production). This enactment, which took effect on January 1st, 1907, has created a widespead interest in the subject. Mr. Herrick represented the American Chemical Society and the Society of Chemical Industry (through their New England Sections) at the so-called "Free Alcohol" Congressional hearings, held at Washington last year. During these investigations much valuable evidence was given, and this is dealt with in the present volume. The author has also drawn freely upon the Report of the British Departmental Committee on Industrial Alcohol, issued in 1905.

The author has had the assistance of various well-known chemists in the preparation of portions of the work, and, as many aspects of the subject require treatment by specialists, this co-operation adds additional interest and value to the volume under review.

In Chapter I. the composition, history, and use of denatured alcohol is considered. Chapter II. treats of the manufacture of alcohol generally, and includes descriptions of the raw materials; their composition and preparation for fermentation; malting; the fermentation proper; theoretical *versus* practical yields of alcohol; the micro-organisms; the use of moulds in saccharification; the fermentation period; wild and "disease" yeasts; the control of the fermentation operations; and the conditions favourable to alcoholic fermentation. Chapter III. deals with the distillation and rectification of alcohol; and Chapter IV. with alcoholometry. This latter section, containing 46 pages, is of special interest. The determination of alcohol by the alcoholometer and by distillation is described, and also the detection and determination of ethyl and methyl alcohols in mixtures by means of the immersion refractometer, together with the determination of methyl alcohol in denatured alcohol by the same instrument. Alcohol tables are given, and also tests for the detection of acteone, methyl alcohol, and ethyl alcohol. In this chapter is illustrated a small hot-air motor for laboratory purposes, driven by denatured alcohol. Chapter V. deals with the cost of alcohol and of alcohol-distilling plants. The calculation of the cost of alcohol from different raw materials is dealt with at some length. Other subjects discussed in this chapter are the by-products obtained in the distillation process; fusel oil; the value of the spent wash; the manufacture of ethyl alcohol from sawdust; ethyl chloride as a refrigerant; and the cost of buildings and plant for distillation, with a plan of a distillery for distilling alcohol from corn, etc. Chapter VI. is devoted to the question of alcohol as an illuminant, and in Chapter VII. the fuel value of alcohol is compared with other liquid fuels. Alcohol as a source of power is treated of in Chapter VIII., and this section, consisting of 50 pages, is of special interest at the present time, when substitutes for petrol are being sought for use in connection with motor vehicles. Chapter IX. contains details of the laws and regulations for denatured alcohol in the United States and other countries; while in Chapter X. the author reviews the question as to the possibilities of industrial alcohol in America. The appendix of over 120 pages contains the text of various United States regulations; amendments to the Act of Congress already referred to; the text of the Report of the British Departmental Committee of 1905, with extracts from the minutes of evidence; an abstract from the British Revenue Act, 1906; a bibliography; and a list of patents referring to the manufacture of alcohol.

The work is a valuable contribution to the technology of the subject, and will form a useful addition to the library of the technical chemist.

The Twentieth Century Book of Recipes, Formulas, and Processes. Edited by Gardner D. Hiscox, M.E. Pp. 787. London: Crosby Lockwood and Son. New York: The Norman W. Henley Publishing Co. 1907. 12s. 6d. net.

Collections of recipes are so familiar to the technical reviewer that he is apt to look with suspicion on any new compilation. The Editor of the present collection pertinently observes in his preface that an ideal work of this character would include only formulas and recipes which have been carefully tested, and all chemists will agree with him in this dictum. He goes on to add, however, that this precedure is impracticable, as the cost of carrying out chemical and technological tests of several thousand processes places such a course out of the question. The next best method is the selection of recipes from trustworthy sources, and this system has been adopted in the preparation of the present volume. The book contains nearly 10,000 selected recipes, formulas, and processes for use in the laboratory, the workshop, and for domestic purposes. It is above the level of many such compilations, and covers a very wide range of subjects.

Trade Notes.

The Fall in the Price of Platinum.—Advices received in St. Petersburg from Ekaterinburg show that platinum has again given way in price. It is now quoted there at 20 kopecks reduction per solotnik, or about 6 roubles to 6r. 20c. per solotnik.

Cornish Mines Association, Ld.—Capital £20,000., in 19,900 preference shares of £1. each, and 2,000 deferred shares of 1s. each. This company has been formed for objects as indicated by the title.

Portland Cement.—The Lower Elbe Cement Manufacturers' Syndicate announces an advance in selling prices for next year's deliveries of 30pf. per barrel, equal to 2.56m., or 2s. 6d. per ton. It is to be hoped that English manufacturers may be able to follow suit, thereby improving their present purely philanthropic position. The Hanover Portland Cement Company pays a dividend of 15% for the year ending June 30, against 10% for the corresponding period.

Fuel Oil on Mexican Railways.—The Mexican Central Railway is now taking 4,000 barrels of fuel oil daily from the Mexican Petroleum Company. The cost is $1.10. a barrel, or a total of $4,400. daily. The Mexican Central is steadily increasing the number of oil-burning engines in service, and within the next few months the road will be taking much more fuel oil than at present. All new engines purchased by the Mexican Central are equipped for burning oil, and engines are being constantly remodelled in the general shops at Aguascalientes. Oil-burning engines will be soon placed in service on the Chihuahua and Guadalajara divisions of the Central. Storage tanks are being prepared at Guadalajara, Yurecuaro, Zapotlan, and La Vega, and delivery tanks are now being erected.

Motor Fuels.—In a recent volume of American Consular reports, Consul Halstead, of Birmingham, observes that amongst substitutes for petrol are mentioned crude petroleum, paraffin, shale oil, benzol, alcohol, and acetylene, some of which are said to give better results in connection with another hydrocarbon. Both paraffin and crude petroleum are unsatisfactory, the former because it is difficult to start a paraffin engine from the cold, the latter because of its heaviness. Shale oil is difficult to obtain, but gives good results. Alcohol and acetylene have been combined experimentally for motor-fuel purposes with some degree of success, but the difficulty is in ascertaining what should be the relative proportions of the two ingredients. This combination cannot become commercially useful in the United Kingdom for motor purposes until alcohol can be produced much more cheaply. The high Inland Revenue tax now keeps up the price of alcohol, though it can be produced very cheaply from many substances of little value. If alcohol alone were used for internal combustion engines, the design of such engines would have to be changed to ensure complete combustion. The difficulty in starting an engine from alcohol from the cold can be overcome by using either a vaporiser or a burner, or a small quantity of petrol in the initial stages. Benzol is regarded as the alternative fuel most likely to aid in the solution of the question. It is thought that it can be manufactured in sufficient quantities and sold at a fair price if the demand arises for it. It is more powerful than petrol, and experiments made with it are said to have been most encouraging.

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Analytical Notes.

A METHOD OF ESTIMATING CAUSTIC LIME BY THE USE OF A SUGAR SOLUTION.*

By James Hendrick, B.Sc., F.I.C.

Methods of estimating rapidly and accurately the caustic lime in burnt limes and other substances are not given in the ordinary text-books, and do not appear to be in common use. In the past, analyses of lime have generally been "complete" analyses, in which the caustic lime has been determined by estimating the total lime and certain other constituents of the sample, and assuming that the lime which is left after subtracting from the total what has been calculated to be present in certain compounds is caustic lime. This direct method is liable to great inaccuracy. For instance, a considerable amount of lime is sometimes present as silicate in burnt limes. It appears to be common to include such lime in the caustic lime. It is probable that estimations of caustic lime in this way are generally in excess of the truth, especially in the case of impure limes prepared from limestones which contain a considerable percentage of fine siliceous matter. In any case, such a complete analysis is usually not wanted, and is time-consuming and troublesome. In recent years, ground lime has come greatly into use for agricultural purposes. The purchasers of this do not require a complete analysis, but only an estimation of the caustic lime, hence it is largely sold on a caustic lime basis. It is quite common for sellers—in Scotland, at any rate—to give a guarantee that ground lime contains a certain percentage of "caustic lime" or "calcium oxide." In view of the provisions of the Fertiliser and Feeding Stuffs Act, 1906, it is necessary for agricultural analysts to be prepared to estimate caustic lime.

The amount of calcium oxide present in a mixture of the oxide with calcium carbonate can be estimated by direct titration with standard hydrochloric or nitric acid, using phenolphthalein or phenacetolin as indicator (Sutton, "Volumetric Analysis," eighth edition, p. 75). In the case of commercial limes this method is rendered only approximately accurate by the presence of magnesia, of phosphates, and of iron and aluminium oxides, which render the end-point indefinite. With experience, an approximate estimation can be made in this way which is probably as accurate as those made by the complete analysis method, and, like it, errs on the side of excess. This method has been used to a large extent in comparison with the one to be described (see Table V.).

Methods in which solutions of ammonium nitrate are used to extract caustic lime are employed to some extent on the Continent. G. Berju and W. Kosinenko (*Landw. Versuchs. Stationen*, 1904, 60, 419) investigated these, and suggested some improvements. One great defect is that a solution of ammonium nitrate dissolves calcium carbonate to a certain extent. Another is that the lime cannot be estimated volumetrically directly after extraction, but must be precipitated as oxalate.

It occurred to me that the lime might be extracted by a solution of ordinary sugar, and directly titrated in such a solution by standard acid. After I had commenced work on these lines it was pointed out to me that a method similar in principle had already been published by W. E. Stone and F. C. Scheuch (*Journ. Amer. Chem. Soc.*, 1894, 16, 721; *Analyst*, 1895, 20, 19). I have, however, as the result of my experiments, made certain alterations in the procedure of Stone and Scheuch, which materially enhance the value of the process.

The solubility of calcium carbonate, crystalline and amorphous, in a sugar solution was first determined, and it was found that neither was more soluble in a cold neutral sugar solution than in distilled water. A neutral solution of ordinary white loaf-sugar (10 grammes to 100 c.c.) was used in this investigation.

In my experiments with pure lime and carbonate of lime, Iceland spar, and what was purchased as pure precipitated carbonate of lime, were used. The Iceland spar was practically pure calcium carbonate, but the precipitated carbonate, after drying, contained only 98.9% of calcium carbonate. Lime and mixtures of lime and carbonate were prepared by heating these substances over the blowpipe. The amount of caustic lime present was estimated from the loss of weight after ignition, and by complete titration with standard acid and methyl orange.

The solubility of calcium oxide in presence of calcium carbonate was studied. For each gram of the original carbonate of lime taken, 100 c.c. of a 10% solution of sugar was used. After the carbonate had been ignited, it was shaken with the sugar solution for at least four hours in a Wagner rotary shaker. It was then rapidly filtered and titrated with standard acid. The results are shown in Table I.

In the case of Iceland spar, the agreement between the estimated and found calcium oxide is as close as could be expected. In all caustic lime estimations, unless special precautions are adopted to exclude carbon dioxide, there is a small loss due to the formation of carbonate. For the purpose in view, such minute losses are of no consequence, as they will in any case be less than those which are liable to occur in the commercial handling of the lime.

With precipitated lime the agreement is not so good, differences occurring which are by no means negligible. It was found that the "pure" precipitated lime contained about 1% of silica, which, on ignition, enters into combination with a part of the lime, and prevents its solution in the sugar. This helps to explain what takes place in the case of commercial limes, which often contain considerable percentages of silica.

Table I.—*Iceland Spar.*

Calculated from loss of weight: Calcium carbonate. Gramme.	Calcium Oxide. Gramme.	Found by titration of Sugar solution: Calcium oxide. Gramme.
1.000	0	Mere trace.
0.777	0.189	0.187
0.301	0.451	0.488
0.020	0.549	0.547
0.010	0.555	0.557
Precipitated Calcium Carbonate.		
1.000	0	Mere trace.
0.534	0.341	0.325
0.044	0.535	0.517

Strength of Sugar Solution.—The effect of the concentration of the sugar solution was investigated. For this purpose a high-grade commercial lime, of which a complete analysis had been made, was used. In each case 5 grammes of lime and 500 c.c. of the sugar solution were taken. The solutions were shaken side by side for four hours. The results are given in Table II.

Table II.

Strength of sugar solution	100 c.c. required N/1 HCl.	Calcium Oxide.
5 per cent.	24.5 c.c.	0.6860
10 ,, ...	29.5 ,, ...	0.8260
20 ,, ...	29.6 ,, ...	0.8288
30 ,, ...	29.7 ,, ...	0.8316

The figures show that whilst 5% of sugar is too low a concentration, there is little difference in the results obtained from the stronger solutions.

Amount of Shaking Necessary.—In the method described by Stone and Scheuch it is recommended that the lime be shaken with the sugar solution for twenty minutes. I have not found this sufficient for complete extraction. Experiments were made with two samples of commercial lime, one of high quality and the other of poor quality. These were finely powdered and shaken with a 10% sugar solution, 100 c.c. per gramme of lime, for different lengths of time, as shown in Table III.

Table III.

Time of shaking.	High-quality lime. 100 c.c. required N/1 HCl.	High-quality lime. Per cent. CaO.	Low-quality lime 100 c.c. required N/1 HCl.	Low-quality lime Per cent. CaO.
½ hour	.. 29.8 c.c.	.. 83.44	.. 21.2 c.c.	.. 59.36
1 ,,	.. 30.3 ,,	.. 84.84	.. 21.7 ,,	.. 60.76
2 hours	.. 30.8 ,,	.. 86.24	.. 22.0 ,,	.. 61.60
4 ,,	.. 31.0 ,,	.. 86.80	.. 22.3 ,,	.. 62.44
6 ,,	.. 31.0 ,,	.. 86.80	.. 22.3 ,,	.. 62.44

The results show that about four hours' shaking is necessary. The shaking machine was driven at about 50 or 60 revolutions a minute. If the limes are at all coarse and lumpy, it has been found that four hours' shaking is not sufficient. At the same time, no special precaution was taken to grind very finely, and they were certainly not ground to an impalpable powder.

It is most important that the shaking should be started immediately after the lime and sugar solutions are mixed. If they are allowed to stand the lime soon forms a cake of sucrate, and it is then almost impossible to obtain complete extraction. There were many erratic results obtained in some of our earlier experiments owing to this cause. The high-quality lime used in the time experiment mentioned above was allowed to stand till it had caked and then shaken. The effect of the caking is shown in Table IV.

* A paper read before the Society of Public Analysts.—From the *Analyst*.

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Table IV.

Time of shaking.	100 c.c required standard HCl.
½ hour	22.2 c.c.
1 ,,	25.2 ,,
2 hours	27.0 ,,
4 ,,	28.2 ,,

Even after four hours' shaking there was less lime extracted than in half an hour when the shaking was commenced at once. If 2 c.c. of alcohol per gramme of lime is placed in the flask before adding the lime and sugar solution the formation of a cake is prevented.

Effect of Magnesia.—A sample of crystallised magnesium carbonate of the composition—MgO, 31.1%; CO_2, 31.5%; and water, 37.1% was used. It was free from lime, sulphates, chlorides, and nitrates. Five grammes of the finely powdered carbonate were shaken for four hours with 500 c.c. of a 10% sugar solution, and filtered; 100 c.c. required for neutralisation hydrochloric acid equal to 0.0866 gramme $MgCO_3$, equal to 0.0412 gramme MgO. The shaking was continued in another portion for six hours, but exactly the same amount of acid was required for neutralisation. Magnesium carbonate in this form appears to be dissolved to a considerable extent by the sugar solution. A portion of the carbonate ignited to oxide was shaken with a similar sugar solution for four hours. The sugar solution was used at the rate of 100 c.c. per gramme of the original carbonate taken. It required for neutralisation only 0.3 c.c. N/1 HCl per 100 c.c., equal to 0.0059 gramme MgO, or 0.0123 gramme $MgCO_3$. The oxide, therefore, is almost insoluble in sugar solution. A similar result was found by Stone and Scheuch.

It is generally assumed that all the magnesia in burnt limes is present in the form of oxides. If this be so, the small percentage present in ordinary lime will not affect the result to any appreciable extent.

This method, therefore, furnishes a rapid means of estimating caustic lime in such substances as burnt limes, which contain carbonate of lime, magnesia, and other substances. It is more accurate than the method of direct titration, which is interfered with by the presence of magnesia and carbonate, and gives high results, and is also more accurate, as well as much less troublesome, than the method of complete analysis.

The process which I use in carrying out the sugar method for ordinary burnt limes is as follows:

In a 500 c.c. flask is placed 10 c.c. of alcohol. Five grammes of the powdered lime are rapidly weighed and added. The flask is filled to the mark with 10% sugar solution, and at once placed on the shaker, and shaken for at least four hours. A portion is then rapidly filtered into a 100-c.c. flask, and titrated with standard hydrochloric acid, using methyl orange as indicator. When the residue readily settles clear after the shaking, as is often the case, the solution can be poured off directly into the 100-c.c. flask. Table V gives the results of some typical estimations of lime by this method in comparison with direct titration.

Table V.

Caustic lime. By direct titration.	Caustic lime. By sugar extraction.	Total lime.	Total magnesia.	Total silicon.
49.5	48.8	—	—	—
57.5	54.7	71.9	1.6	14.8
67.2	66.0	76.5	5.5	5.5
75.5	75.5	—	—	—
79.1	78.3	—	—	—
84.9	82.4	88.0	5.1	2.4
86.8	85.2	90.1	2.2	1.2

It will be seen that in every case but one the direct titration gives higher results than extraction by sugar. In four of these limes complete analyses were made, and the total lime, magnesia, and silica found are also given in the table for comparison.

When the caustic lime was calculated from the complete analysis, it was always found to be higher than that given by the sugar method, and generally also higher than that found by direct titration. In the case of low quality limes which contain a considerable percentage of silica, it is not unusual to find that the caustic lime estimated from the complete analysis is from 5 to 10% higher than that found by the sugar method, unless it is assumed that a considerable part of the lime was combined with silica and this amount deducted.

I have to thank Mr. F. S. Marr, B.Sc., for assistance in carrying out this investigation. Most of the routine experimental work was performed by him.

THE CAMPHOR SITUATION.

In recent issues (*C.T.J.*, No. 1,061 p. 265, and No. 1,062 p. 288), we published some notes on the camphor situation. The latest volume of United States Consular reports contains further contributions to the subject, of which the following is an abstract.

Camphor in Formosa is manufactured only from trees of about fifty years of age. Recent investigations have shown that the supply of trees will, at the present rate of cutting, become exhausted in less than fifty years. Owing to lack of roads and the presence of savage tribes, much of the camphor forest is inaccessible for exploitation. In the Daito Prefecture alone there are enough trees to produce 40,000,000 lbs. of crude camphor. A few years ago a Japanese company took 1,000 coolies into this district to exploit the camphor forests, but 33% of its labour was incapacitated through the contraction of fevers. Most of the camphor comes from trees in the Toen province. The Camphor Bureau expects to produce 5,000,000 kin (6,667,000 lbs.) of crude camphor, and about half that amount of camphor oil during the present year. Formosa at present produces about 75% of the world's supply of camphor, the remainder coming from Japan and China.

On the organisation of the camphor monopoly in 1899, the Formosan Government adopted a system of afforestation which, it is hoped, will guarantee to the island a constant supply of raw materials. The Camphor Bureau has three methods of afforestation: Government replanting; replanting by schools, villages, and agricultural societies, and replanting by private concerns. Furthermore, the Bureau registers certain of the seed-producing trees and prohibits their being cut down, thus preserving a good supply of seeds. Since 1900 the Government has planted about 3,000,000 young trees, and will add another 500,000 during the present year. After that they expect to plant 750,000 each year. Trees in the mountainous districts are not allowed to be used for production for a period of fifty years. Those in the lowlands are planted close together in rows, so that, in ten years, they can be utilised for crude camphor.

Of the two varieties—the camphor-producing tree and the camphor-oil producing—the former is the more valuable, as the latter only produces 0.49% of its weight in camphor. The afforestation of camphor in Formosa is flourishing, reports from Japan estimating the number of trees planted during the past ten years at 8,000,000.

Crude camphor is manufactured from the wood by the simple process of distillation. Chips of camphor wood are placed in a clay-plastered retort which rests upon a circular wooden rim of a water pan. This water pan sets over a fire. Connected with the retort at some distance away are the crystallisation and cooling boxes in which the camphor vapour passes, is cooled, and crystallised. The camphor thus crystallised is dark in appearance and is known as crude camphor. These stills or stoves are erected as close to the supply of the raw material as is possible; hence, throughout the camphor-producing districts there are found many of these stoves. The products of the different stoves are not uniform in quality. There are two grades of camphor, known as "B" and "BB." The "B" grade, exported to the American market, is rated crude camphor, containing a higher percentage of oil and water than the "BB" grade, which more nearly approaches a refined camphor. The "BB" grade differs from properly refined camphor in that it is not clarified. Owing to the fact that the Monopoly Bureau's plant was partially destroyed by fire a few months ago, it has been impossible to produce the "BB" grade, and consumers are obliged to take the "B" grade product until the plant is repaired. The crude camphor which is not exported to foreign markets is sent, along with the camphor oil, to the Kobe refineries, where refining is completed. Although the "BB" grade is rated by the American customs examiners as a refined camphor, yet the Camphor Bureau in Formosa terms it crude camphor, for the reason that a clarifying process is necessary to the completion of the refining.

Formosa holds a monopoly upon the production and sale of camphor. Although 1,600,000 lbs. were exported in 1906 from China, yet the Formosan industry fears no competition from that source. About 70% of the world's camphor is used in the manufacture of celluloid; the Formosan Camphor Bureau has instructed its agents to supply the celluloid manufacturers first. The Monopoly Bureau regulates the prices to be made to foreign purchasers; the present price of the "B" grade camphor is $69.50. U.S.A. gold, for 133⅓ lbs., f.o.b. New York. This is considerably higher than the price of five years ago, but there will probably be no advances in the future.

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The following are the official statistics of the Japanese camphor industry for the last three years, a kin being 1.325 pounds avoirdupois, and a yen 49.8 cents :—

Year.	Camphor.	Camphor oil.
	Kin.	*Kin.*
1904	—	3,434,689
1905	4,102,362	3,417,531
1906 (estimated)	4,185,906	3,484,387

About 90% of the whole production is exported to foreign markets to be wrought upon and distributed. The value of the commodity imported into Japan during the past six years in the form of celluloid (sheet and rod) is as follows :—

Year.	Yen.	Year.	Yen.
1901	383,516	1904	253,643
1902	275,939	1905	496,865
1903	339,499	1906	818,122

The productive capacity of Japan is stated as follows :—

	Camphor	Camphor oil.
	Kin.	*Kin.*
Formosa	32,000,000 ..	22,360,000
Japan proper	32,235,000 ..	34,290,000

The Monopoly Bureau is now encouraging the cultivation of camphor trees, with a view to maintaining the productive power in the staple commodity. A Japanese newspaper states that the Tokio Government has on foot a project for the extensive planting of forests of camphor trees. The demand for camphor increases, having now reached over 10,500,000 pounds annually, and it will not be long until it reaches 13,0000,000 pounds, says the Japanese authority.

CHINA.

It is only in the past few years that China has taken to the production of camphor. During 1906, 1,467,000 lbs. were exported. The exports were :—From Fuchau, 1,515,867 lbs. ; Santuao, 15,600 lbs. ; Wuchow, 41,800 lbs. ; total 1,573,320 lbs. These exports went to Hong Kong, whence they were re-exported to Europe and America. The prices in Fuchau varied from $134. to $170., Mexican, per 133⅓ lbs. The trees in the Futsin Province are very scattered, and, in spite of reckless cutting, a goodly number still remain. Of the possibilities of the Chekiang, Kuansung, and Kuangsi Provinces but little is known ; ; nevertheless, the camphor industry in China has made remarkable progress during the past few years. Consul S. L. Gracey, of Fuchau, makes the following report on the trade.

Camphor is being exploited by the Chinese, Japanese, and British, who are ruthlessly cutting down the trees as fast as they can be bought from the owners. There are no camphor forests in this district, but there are great numbers of trees scattered all over the northern part of the Province. New rules have recently been issued by the Viceroy, in which it is proposed to impose a provincial tax of 76 cents on every 133⅓ lbs. of camphor produced, and 28 cents on each 100 lbs. of camphor oil, which it is calculated will produce a revenue of from $8,300. to $11,450., which sum is to be expended in planting and cultivating new trees. Some provision of this kind is absolutely necessary, else the camphor product here will soon be a thing of the past. Five young trees are to be planted for every tree cut down. As the Viceroy says, " Camphor trees cannot produce camphor unless they are several tens or hundreds of years old," it will be seen that as a fact the product will soon cease, as a long interval must elapse between the destruction of the existing trees and the growth of the new trees to a state fit to be cut. There are about twenty distilleries now in operation near Fuchau, and many more up the country where the trees are grown. Of exports the greatest increase has been in the shipment of camphor from Fuchau, as the following table will show :—

	Camphor.		Campho oil.	
Years.	Pounds.	Gold value.	Pounds.	Gold value.
1904	161,333	$47,102	167,333	$10,305
1905	538,267	223,954	221,733	14,855
1906	1,516,600	932,793	425,200	42,078

FRANCE.

Consul W. H. Hunt observes that the growth of the celluloid industry has caused the formation of companies to manufacture camphor artificially. After many experiments the chemist Kindt obtained, by the action of hydrochloric acid on essence of turpentine, a crystallised product which he took for camphor, and gave the name of artificial camphor, although this product has but little practical uses. Synthetic camphor, on the other hand, is found in the market, and is well adapted to the manufacture of celluloid. Natural camphor is called " Japan camphor," 90% of which comes from Formosa. Japan's production of camphor is about 3,000,000 to 4,000,000 kilos. (kilo 2⅕ lbs.) Of this fully 1,000,000 kilos. are exported to Germany and delivered at $109. per 220 lbs.

The outlook on trade, though good, is not without disadvantages. The first is the high price of essence of turpentine and its derivatives. For the last six years the prices have gone up from $13. to $20. per 100 kilos., and they continue to rise. The second consists in the fact that the celluloid industry is endeavouring to do without camphor by substituting for it casein. In any case it is certain that if the Japanese Government finds that synthetic camphor is becoming a serious competitor, and consequently compromising the market for the natural article, it will lower the price of camphor (the margin allows it) even below the cost price of the foreign manufacturers.

UNITED STATES.

The Secretary of the Department of Agriculture, in a recent address delivered before the Americus Club, of Pittsburg, stated that the United States were successfully experimenting in the production of camphor. For years the Department had been distributing camphor-tree seed, and thousands of trees were now growing throughout the South and in the Pacific coast States. Two years ago a serious effort was made to develop the manufacture of camphor from these trees. By improvements in manufacturing processes satisfactory results had been accomplished, and a large manufacturing concern was now building up a camphor grove of 2,000 acres in Florida, from which it hoped to make its camphor. This firm used more than $500,000. worth of camphor every year.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

A. & H.—Your query has been replied to by post.

S. B. & Co., Ltd.—The blocks have been returned.

H. W. & Co.—You would notice a reference to the change in our last week's issue.

S. & Co., Ltd.—We have written you by post respecting the points you mention.

G. L. & Co., Ltd.—The four blocks are duly to hand. We expect to publish the article next week.

J. N. & Sons, Ltd.—We are looking into this matter, and hope to be able to refer you to the foreign journals respecting which you inquire.

J. P. & Co.—We are not acquainted with any firm who make a speciality of the plant you mention. We will, however, try to secure the desired information.

A. D.—Any of the firms specified under " Acid, Carbolic," in the Chemical Trade Directory will be able to supply you with the products respecting which you inquire.

P. Le M. & Co.—We scarcely think it is possible for you to secure complete information. The names given are often those of transit agents, and not of the actual importers. The " Chemical Trade Directory," published at this office, will help you.

A. C. E.—We think you will find all the information you require in Sutton's " Volumetric Analysis," published by J. and A. Churchill, New Burlington-st., London, and Abady's " Gas Analyst's Manual " (E. and F. N. Spon, Ltd.), 125, Strand, London, W.C.

B. & Co., Ltd.—Full particulars, both as to weight and value, are always given in our export lists when such appear in the Customs returns ; when the value only is stated, the reason is that this is the only available information. We are looking into the matter of exports of carbonate of ammonia, and hope to secure a more satisfactory classification.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Cleansing Material. H. Robb, W. A. Mullen, and A. Garnett. 21,043. September 23.

Refining Crude Petroleum, etc. W. McMullen. 21,060. September 23.

Dry Concentration of Ores. H. M. Sutton, W. L. Steele, and E. G. Steele 21,063. September 23.

Extracting Metals from Ores by a Wet Process. J. Moeller. 21,066, 21,067. September 23.

Fuel Gas from Mineral Carbonates. C. H. Ryder. 21 078. September 23.

Steam Superheaters. E. H. Foster. 21,093, 21,094, 21,095. September 23.

Regulating Temperature of Superheated Steam. E. H. Foster. 21,096. September 23.

Steam Superheaters. L. B. Nutting. 21,097. September 23.

Colouring Matters of the Gallo-Cyanide Series. G. B. Ellis. 21,109. September 23.

Explosive Oil. H. J. Haddan. 21,116. September 23.

Explosive Oils Containing Nitro-Glycerine. H. J. Haddan. 21,117. September 23.

Gas-producing Apparatus. G. Marcoonet. 21,124. September 23.

Consuming Smoke. G. H. Biddles. 21,129. September 24

Sulphuric Acid. F. G. Cottrell. 21,147. September 24.

Separating Solid Granular Materials from the Containing Liquid. E. Bennis, A. W. Bennis, and T. Scott-King. 21,204. September 24.

Ozonising Apparatus. J. T. Szek. 21,211. September 24.

Cyanamides and Nitrides from Nitrogen and Carbides of Metals. G. Bredig and W. Fraepkel. 21,215. September 24.

Boron. British Thomson-Houston Co., Ltd. 21,224. September 24.

Fire-resisting Material. J. Bearn and P. Spence and Sons, Ltd. 21,239. September 25.

Filtering Device for Laboratory Work. J. Hudig. 21,279. September 25.

Nozzles for Bunsen Burners. A Lines. 21,315. September 26.

Packing Materials for Reaction Chambers, etc. H. Petersen. 21,346. September 26.

Diazo Compounds. A. R. Fiechter. 21 366. September 26.

Centrifugal Machines. A. L. Adams. 21,388. September 26.

Recovery of Metallic Tin. O. J. Steinhart and J L. T. Vogel. 21,401. September 26

Conveyers. D. Campbell, R. B J. Binnie, and W. Reid. 21,425. September 27.

Distilling Tar, etc. W. Welsh and J. Duffy. 21,427. September 27.

Sulphuric Acid Manufacture. L. P. Basset. 21,475. September 27.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Hydro-oxygen Gas Apparatus. Lang and Smith. 16,351.

Treatment of Zinc Residues. Macivor and Fradd. 21,440.

Separation of Zinc from Ores or Compounds. Sulman. 21,672.

Evaporating Apparatus. Grossmann. 23,606.

Anthracene Series Compounds. Johnson (Badische Anilin and Soda Fabrik) 29,750.

1907.

4-Nitro-2-Chlorodiphenylamine and its Derivatives. Bloxam (Akt.-Ges. für Anilin-Fabrikation). 1,946.

Tanning Extracts. Stewart. 5,438.

Furnace Smoke Consumers. Johnson. 6,335.

Waterproof Paints. Plönnis. 6,755.

Pulverising or Grinding Mills. Fuller. 7,143.

Electrodes for Resistance Furnaces. Rochling, Schoenawa, and Rodenhauser. 11,917.

Purifying Gases from Pyrites Burners. Eschellmann and Gesellschaft Der Tentelewschen Chemischen Fabrik. 12,213.

Steam Generators for Gas Producers. Ransford (Pierson and Firm of J. and O. G. Pierson). 14,531.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in and relating to the Extraction of Metals from Ores. J. J. C. Fernau, c/o G. Fernau and Son, 21, Wool Exchange, London, E.C., and of Nelson, British Columbia. British Patent, 24,905. November 6, 1906.

The claims of this specification are :—(1.) A process for separating metals from sulphide ores, consisting in reducing the ore in a bath of a suitable molten metal circulating between the heating and work chambers, and subsequently isolating the reduced metal by distallation, precipitation, or other method depending on the character of the metal. (2.) A process for separating zinc from its ores, consisting in reducing zinc blende in a bath of molten iron circulating between the heating and work chambers, the work chamber having a relatively inert atmosphere and recovering the zinc volatilised during the reaction by condensation. (3.) A process for separating zinc and lead from zinc blende and like ores, consisting in reducing the blende in a bath of molten iron circulating between the heating and work chambers, the work chamber having a relatively inert atmosphere, recovering the zinc volatilised during the reaction by condensation and the lead by precipitation. (4.) The improved process for the extraction of metals from ore. (5.) An apparatus for carrying out processes of the type indicated, in which molten iron from a furnace or other source is caused to circulate through an air-tight chamber and separate metal from ore introduced therein, the volatile products arising from the reaction of the molten metal and the ore being conducted through a mass of incandescent carbon and afterwards condensed. (6.) In apparatus of the type indicated, means for circulating molten metal between the work chamber and the heating chamber. (7.) Improved apparatus, substantially as described with reference to the drawings accompanying the specification.

Process for Calcining the Raw Material for Manufacturing Cement. Carl Hocke, Gr. Bäckerstrasse 6, Hamburg. British Patent, 27,059 November 28, 1906.

The inventor claims :—(1.) Process for calcining, in kilns or shaft furnaces, raw material for cement, in which the raw material is supplied to the furnace intimately mixed with finely divided combustible, the mixture being in the wet condition characterised by such a quantity of water being supplied on the press to the raw material during the production of blocks of the same, that said blocks on being thrown into the furnace lose their shape again and subside into a cake filling up the whole cross-sectional area of the furnace. (2.) Process for calcining in kilns or shaft furnaces raw material for cement in which the raw material is supplied to the furnace intimately mixed with finely divided combustible, the mixture being in the wet condition and in which cement slurry obtained by the wet preparative process is for the purpose of being supplied to the furnace without being preliminarily dried, thickened by the addition of half-burnt cement, characterised by said half-burnt cement being added in a finely ground condition, so that the slurry with this addition and with the requisite amount of combustible can be supplied to the furnace in a dough-like condition.

Improved Process for Obtaining Metallic Zinc and Apparatus therefor. W. P. Thompson, 6, Lord-street, Liverpool (communicated by G. Mojana, 37, Via Manzoni, Milan. British Patent, 28,575. December 14, 1906.

The inventor observes that it has been proposed to submit refractory sulphides to the action of jets or sprays of chlorine or of chlorine and hydrocarbon vapour at a high temperature, and afterwards to that of liquid metals, so as to extract the precious metals therefrom ; also to purify solutions containing chloride of zinc by means of zinc oxide ; also to electrolyse chloride of sodium and treat certain ores at a high temperature with both its constituents to obtain aluminium or other metal whose chloride is less exothermic than that of sodium. By the present invention, however, the zinciferous substance is acted upon by gaseous chlorine in the presence of porous carbon in certain determined conditions whereby the zinc contained can be almost totally transformed into a soluble compound (chloride) which is separated out by lixiviation, and after which the solution may be subjected to electrolysis to separate out the metallic zinc.

The process may thus also be applied to calcined and uncalcined calamine, blende, smithsonite, zinc ashes, concentrates, and tailings. For this purpose, charcoal, or coke obtained from the distillation of coal, peat, lignite, and wood, is used, and is broken into small particles. It must be intimately mixed with the zinciferous substances and preferably wetted a little before mixing. The temperature must generally be above 75° C. Chlorine is at first absorbed in considerable quantity, the absorption then grows less rapid, and becomes very slow. During the operation carbonic acid, oxide of carbon, and the chlorine not absorbed are given off from the mass. For this reason the apparatus for working the process has been so designed as to compel the gases given off from the mass, which has been almost completely treated, to pass through another mass only slightly treated. Chlorine is thus all absorbed and the gases are set free in the atmosphere. According to circumstances it is well to inject together with the chlorine (but only at intervals) a jet of steam. A sheet of drawings shows the apparatus employed.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Oct. 10.
120,000	1	1	Bell's Asbestos ... ord	40/-
	Stock	100	Borax Consol 4½% deb. stock red	109 111
80,000	10	10	Do. ... pref.	11⅛ 11⅜
1,356,477	1	1	Bradford Dyers ... ord.	24/1½
1,50-,000	1	1	Do. ... 5% c.p.	21/3
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	42/-
10,000	10	10	Do. ... 6% c p.	12¼
1,472,154	1	1	Brunner, Mond and Co. ord.	5 5/16 5⅜
82,678	10	10	Do. 7% pref.	17 17¼
96,000	5	5	Bryant and May ... c.p.	12 11/16
40,000	10	10	Buxton Lime Firms ord.	6 1/16 6 5/16
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/-
450,000	1	1	Castner Kellner ... ,,	24/9 25/3
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J., and Sons c.p	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/6 28/-
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	95⅜
	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	3¼ 3½
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	12 5/16
200,000	10	10	Lever Bros. ... 5% c.p.	10 3/32
400,000	10	10	Manchester Ship Canal ord.	20/9 21/3
400,000	10	10	Do. per 5% pref.	30/- 30/6
120,000	1	1	Mandelberg ... ord	31/6 32/6
185,145	1	1	Mason and Barry ... ,,	57/6
110,007	10	10	Nitrate Railways ... ,,	11½ 12
228,540	10	10	Nobel Dynamite Trust ,,	16 7/16
	10	10	Do. share warrants	16 7/16
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	37/9
	1		Pears, A. and F. ... ,,	30/7½
70,000	10	10	Pease and Partners ... ,,	13⅛
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/	Pumpherston Oil, Ltd. ,,	12 11/16
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	69
2,500	7½	7½	Robin and Houston ... ,,	85/-
239,479	1	14/2	Sadler and Co. ... ,,	4/-
200,000	4	4	Salt Union ... ... ,,	17/7½
100,000	6	6	Do. ... 7% n.c.p.	4½ 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	1 1¼
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	120¾
45,000	10	10	Steiner, F. and Co. 5% c p.	9¼ 9⅜
625,000	2	2	Tharsis Sulphur & Copper ,,	5¾ 6¼
289,343	10	10	United Alkali ... ord.	80/3
282,524	10	10	Do. ... 7% pref.	11 7/16
80,000	1	1	United Indigo & Chemical ord	2/3 2/9
66,665	5	5	Willans and Robinson ,,	¾ 1¼
210,000	1	1	Woolcombers ... 7% c.p.	19/9 20/-
112,202	4	4	Young's Paraffin ... ord.	72/6

RUSSIAN CHEMICAL MARKETS.

THE chemicals market at Kieff has remained quiet all through the summer months. The demand has been quite normal, except as to disinfectants, which have lately been more widely inquired for owing to the cholera epidemic.

Spirit is in short supply at Odessa, where prices consequently rule firm, but the situation is weaker for future deliveries.

A chemical report from Warsaw, whilst observing that no decided change is to be recorded in the market, adds that it is generally noted that in a series of items there is a slight tendency to weaken.

Market Reports.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, at 9d. for 90's, and 8¾d. for 50-90's. Crude tar, 15s. 6d. to 19s. 6d. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 26s. to 26s. 6d., f.o.b.; Gas Company, 29s.; East Coast, 24s. 9d. to 25s.; West Coast, 24s. 6d. to 25s. 6d. Solvent naphtha, 90-190%, 1s. 1½d. to 1s. 2d.; 90-160%, 1s. 2d.; 95-160%, 1s. 3d. to 1s. 3½d. Refined naphthalene, £6. 10s. to £8. 10s. Toluol, 90%, 10d. to 10½d.; pure, 1s. 8½d. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5¾d.; 60%, 1s. 8d.; 75%, 1s. 11¾d. to 2s.; crystals, 39-40, 5⅝d.; 34-35, 5½d. Cresylic 95%, 1s. 1d. to 1s. 1½d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia steady. Nearest values are:—Beckton, October-December shipment, £12. 2s. 6d.; and January-April, £12. 5s.; Beckton terms, £11. 12s. 6d.; London, £11. 13s. 9d. to £11. 15s.; Hull, £11. 15s. to £11. 10s. 3d.; Liverpool, £11. 17s. 6d. to £11. 18s. 9d.; Manchester, £11. 15s.; Leith, £12. to £12. 2s. 6d.; January-April, £12. 5s.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d. Liverpool ordinary, 11s. 3d., and refined, 11s. 4½d. Official quotations:—Cargoes, off coast or due, 11s. 1½d.; ditto, for prompt shipment, 11s. 5½d.

FERTILISER MATERIALS.

FRIDAY.

The tone of the market, both for phosphatic and ammoniacal material continues very firm, and for the latter an advance in price has been realised.

For shipment, East Indian bone meal is very firmly held, at £5. per ton, nett cash, c.i.f. Liverpool; whilst the quotations on spot remain £5. 5s. to £5. 10s. per ton, according to quality, ex store.

Nitrate of soda is quiet but steady, at 11s. 3d. per cwt., for 95% quality, and 11s. 6d. per cwt. for refined, on spot.

There is no change to report in mineral phosphates, the quotations for all grades being fully maintained in all positions.

The demand for miscellaneous nitrogenous manure material continues very good, all available parcels being readily taken up at full prices.

THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £62. to £62. 5s. cash, and £61. to £61. 5s. three months. Tin: G.M. quality, £149. to £149. 10s. cash, and £146. 5s. to £146. 15s. three months; English, £151. Lead: Soft foreign, prompt £20. 7s. 6d., and November shipment, £19. 10s.; English, £21. Spelter, ordinary brands, £21. 15s. to £21. 17s. 6d.; hard, £18. 10s. f.o.b. Antimony, £43. to £45.; ore, £14. Bismuth, 6s. 6d. Quicksilver, £7. 10s.; seconds, £7. 9s. Nickel, 1s. 10d. per lb. Wolfram, 40s. to 41s.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

There is a good all-round demand for the main products of the alkali trade, and prices have a higher tendency. Caustic soda is firm at the recent advance. Ammonia alkali, 58%, steady at £4. 10s. on rails. Bleaching powder, softwoods, is unchanged at £4. 5s. to £4. 7s. 6d. for spot, and £4. to £4. 2s. 6d. for next year's delivery. Chlorates are quiet at 3½d. per lb. Sulphate of copper is meeting with very little demand, and prompt quotations are only nominal at £22. 15s. to £23. f.o.b.; £22. 10s. is quoted for spring shipment. Saltcake firm at 42s. 6d. per ton, but so far not much forward business has been done. Recovered rock sulphur, £4. 10s. f.o.r. Spot; supplies of potash, caustic and carbonate, continue scarce and dear. Prussiates are a little firmer for prompt, at 5¾d. and 3¾d. respectively for potash and soda; quotations, however, for 1908 delivery are somewhat lower. Lead salts are unaltered in position or value. White powdered arsenic continues in good request, and price is firm at £31., Garston, for best brands. Acetate of soda £17. to £17. 5s., c.i.f. American brown acetate of lime quiet at £8. 5s., c.i.f.; grey firm at £12. 10s., both prompt and forward. Oxalic acid still in short supply and price steady at 3¾d. delivered.

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LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quiet, with quotations nominal. Pearl ash quiet. Logwood and fustic steady. Cutch quiet. Gum Copal: Sierra Leone sold at auction, at 9d. to 1s. 11d. per lb.; and Gold Coast 55s. per cwt. Castor oil steady at 3½d. for good seconds Calcutta, 3¼d. for first pressure French, 3¼d. for second pressure French, all on spot, and 3⅜d. for Calcutta shipment on to January next. Gambier: Block 21s. 6d. per cwt. on spot, and October November shipment 19s. 3d. Cubes: 30s. per cwt. on spot, 28s. 1¼d. for September-October, 28s. to 28s. 1¼d. for October-November and November-December shipment. Shellac steady at 147s. 6d. to 150s. for fair T.N. orange on spot. Glucose: American liquid, 43%, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 3d.; and October-December, 9s. 9d., c.i.f., for shipment. American powdered starch, 10s. 9d. on spot, and 10s. 3d., c.i.f., for shipment; pearl, 10s. 3d. on spot, and 9s. 9d. c.i.f., for shipment. Cream of tartar: 98% foreign powder, 85s. to 86s.; 95%, 83s. to 84s. Tartaric acid: English, 11¼d. on spot, and foreign 11d. Citric acid quiet, English, 1s. 9¼d. to 1s. 10d.; foreign, 1s. 9½d. to 1s. 9¾d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil firm, sales including Grand Bassa at £25. 15s. on spot; Dix Cove, £25. 15s. on spot; Saltpond, £26. 7s. 6d. Hard oils, £26. 17s. 6d. for October shipment.; Benin, £27. 7s. 6d. on spot; and Lagos, £30. 10s. on spot. Linseed oil firm at 26s. 9d. to 27s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil steady, at 28s. 3d. to 29s. for Liverpool refined in export barrels. Tallow steady at 32s. 3d. per cwt. for South American mutton. Turpentine steady at 39s. per cwt. on spot. Petroleum quiet at 6¾d. for Russian and Roumanian, and 7¼d. to 8¼d. for American refined oils. Petroleum spirit in fair demand, at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s., white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; venetian red, lump, 7s. 6d., powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d., China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d. per lb., Brunswick, 28s. to 34s. per cwt.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OILS.—The positions as regards linseed andcotton seed oils during the week have completely reversed. Cottonseed oil, instead of being strong, has lost value by about £2. per ton, and linseed oil is 15s. per ton higher. Rapeseed oil is too high in price to attract much business. Cottonseed is easier forward, and linseed 6d. per quarter dearer, the huge supplies being absorbed for the continent. Amongst the principal imports here to date, as against the same time a year ago, have been:—Wheat 3,228,463 qrs., against 3,157,037 qrs.; flour 160,379 cwts., against 281,510 cwts.; linseed 616,136 qrs., against 470,021 qrs.; rapeseed 98,328 qrs., against 87,858 qrs.; cottonseed, Egyptian, 133,752 tons, against 120,527 tons; other kinds 137,902 tons, against 104,085 tons; oilcake 20,369 tons, against 31,808 tons; hemp 102,374 cwts., against 126,090 cwts.; olive oil 3,661 tuns, against 3,087 tuns; tar, 10,613 brls., against 10,600 brls. Amongst the weekly imports are:—Lard 4,815 cwts., margarine 2,649 cwts., sugar 13,966 cwts., glucose 37 cwts., hides 313 cwts. colours 1,949 pkgs., hemp 2,170 cwts., wool 28,408 lbs., oilcake 350 tons. Exports: Oil 9,346 cwts., colours 2,941 pkgs., chemicals 2,649 pkgs. Linseed oil firm at the advance, closing steady, 24s. 9d., naked spot; October-December, 23s. 10½d.; January-April, 22s. 10½d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports: 1 ton Denmark, 6 France, 7 Germany, 17 India, 10 Norway, 1 Russia, 3 Turkey, total 45 tons. Refined cotton oil, naked, 25s.; October, 24s.; November-April, 22s. 10½d.; casks £1. and barrels £1. 10s. per ton extra. Exports: 35 tons Germany, 11 Holland, 1 Norway, 2 Sweden, total 49 tons. Turpentine quiet, spot 38s. 6d.; November-December, 39s. 6d.; January-April, 40s. 6d.; May-June, 39s. 9d.; Russian, 21s. Rosin quiet, from 10s. 6d. Castor oil, extracted here, November-December, £30. 10s. for firsts. January-March, 30s.; April-June, £29. 15s.; July-December, £29. 10s.; seconds, £1. per ton less. Olive oil, Levant, £39. to £40. per tun. Linseed, La Plata, spot, 45s. 6d.; October-November sold 45s. 10½d.; December-January sold 44s. 6d.; January-February sold at 44s. Cottonseed, spot, £7. 10s. on passage (new), £6. 18s. 9d. accepted November-January. Bombay, October-November, sold £6. Rapeseed, December-January, Jamba, sold at 43s. 7½d.

TYNE CHEMICAL REPORT.

THURSDAY.

Market steady, with a good demand; prices unaltered. Caustic soda, 70%, £10. 5s. and 76-77%, £11. per ton. Soda crystals, locally, £3. to £3. 2s. 6d. per ton gross weights. Bleaching powder steady at £5. to £5. 5s. per ton. Sulphur scarce at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market quiet, the collieries are holding well to their prices, tonnage, however, is rather scarce and tends to interfere with shipments, while there is a certain amount of coal offering cheaper from second hands. For prompt shipment quotations are as follows:—Best Northumbrian steam, 15s. to 16s. per ton; second qualities, 14s. 3d. to 14s. 6d. per ton; small coals, 10s. 6d. to 11s. per ton; best gas coals, 15s. to 16s. per ton; Durham bunkers, 13s. 9d. to 14s. per ton; coking coals, 14s. 6d. to 15s. per ton; household coals, 16s. 6d. to 17s. 6d. per ton; gas coke, 20s. per ton; foundry coke, 23s. to 24s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The calico printers of this quarter are getting rather busier, supplies of cotton coming in a little more freely. The dyers, also, in all of the sections, report something more of movement. Colour chemicals and drysalteries generally continue to hold very well on the market, with a fair turnover, and with late values firm. Bichromate of potash and bichromate of soda, home makes, move steadily at the old values, 3½d. and 3d. respectively. There is no change in the heavy chemicals, which continue in fair movement at late figures ruling. The feeling in sulphate of ammonia, f.o.b., Leith deliveries, is a shade firmer; as although spot business is the same as before, forward inquiry gains force, buyers having now offered up to £12. 2s. 6d., while sellers want £12. 5s. In Scottish mineral oils and paraffins the late firmness is maintained, and 865° gravity of lubricant runs a further fraction higher.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2⅞d. nett, f.o.b. Glasgow); bleaching powder, 35-37%, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76%, £11.; 70-72%, £10. 5s.; 60-62%, £9. 5s.; and cream, 60-62%, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast-furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 4½d.; paraffin scale, hard, 2d. to 2⅛d.; and soft, 2⅛d. to 2½d. per lb.; paraffin wax, 120° semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating), 865°, £5. 15s. to £6. 5s.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 5⅛d. to 5⅜d. nett, f.a.s. Glasgow; salammoniac, first and second white, £42 and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. to £12. 1s. 3d., prompt f.o.b. Leith; sulphate of copper, £23, less 5% Liverpool, prompt.

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New Companies.

Alaknunda Copper Syndicate, Ltd.—Capital £6,750., in 600 A and 6,000 ordinary shares of £1. each, and 3,000 deferred shares of 1s. each. This syndicate has been formed to adopt an agreement with R. M. Nash for the acquisition of a certain mining license and the right to a lease of property in Devangur, British Garhwal, United Provinces of Agra and Oudh, India, and to carry on the business of copper and general miners, etc. No initial public issue. Table A mainly applies. Registered office, 20, Bucklersbury, E.C.

Banteng (Selangor) Rubber Estates, Ltd.—Capital £50,000., in £1. shares. This company has been formed to acquire the Banteng and Puchong Rubber Estates, Selangor, Federated Malay States, and to adopt an agreement with the Puchong Rubber Syndicate, Ltd. Minimum cash subscription, £15,000. The first directors are R. F. McNair Scott, A. W. Stiven, V. R. Wickwar, and L. C. Bernacchi. Qualification, £250. Remuneration, £500. per annum, divided.

British American Cotton Oil Co., Ltd.—Capital £35,000., in £1. shares (5,000 5% preference). This company has been formed to adopt an agreement with P. A. Mitchell and A. J. Parrott, and to carry on the business of oil merchants, commission agents, factors, etc. No initial public issue. The first directors are A. J. Parrott and P. A. Mitchell (both permanent). Special qualification, five ordinary shares. Qualification of ordinary directors, three ordinary shares. No remuneration. Registered office, 58, Margaret-street, Regent-street, W.

British Colour Co., Ltd.—Capital £15,000., in £1. shares. This company has been formed to purchase the business and assets of the British Colour Co., of Glasgow. The first directors are W. Grieve, W. Eaglesham, J. McLellan, W. J. Newlands and R. Roxburgh; qualification 200 shares. Registered office, 102, Bath-street, Glasgow.

Coslett Anti-Rust Syndicate, Ltd.—Capital £10,000., in £1. shares. This syndicate has been formed to develop and work British patents relating to a process for the treatment of iron or steel for the preventing of rust. No initial public issue. The first directors are not named. Qualification, one share. Registered office, 19 and 20, Temple Courts, Temple Row, Birmingham.

Peruvian Amazon Rubber Co., Ltd.—Capital £1,000,000., in £1. shares (300,000 preference). This company has been formed to acquire the rubber estates at Iquitos and Manaos, South America, owned by the firm of Julio C. Arana and Hermanos, and known as Colonia Indiana, El Encanto Argelia Pevas and Nanay, with the business carried on by the said firm at Iquitos and Manaos, and all other property appertaining thereto. The preference shares are entitled to a cumulative preference dividend of 7%, and to 20% of any surplus profits available for distribution, after providing for 7% on the ordinary shares. No initial public issue. The first directors are to be appointed by the subscribers. Remuneration, £200. each per annum (£300. for the chairman).

Posoltega Rubber Estates, Ltd.—Capital £30,000., in £1. shares. This company has been formed to acquire the rubber estate known as the Chiquimulapa Rubber plantation, on the West Coast of Nicaragua, to adopt an agreement with the Lothbury Syndicate, Ltd., etc. Minimum cash subscription, seven shares. The first directors are H. Lawrence, J. E. A. Dick Lauder, G. V. A. Schofield, E. L. Simon and P. R. Boyes. Qualification, £200. Remuneration for first two years, £50. each per annum; afterwards £100. per annum (chairman £50. extra) and 10% of the surplus net profits after 10% is paid on the ordinary shares, divided (all original shares appear to be ordinary). Registered office, Blomfield House, 85, London Wall, E.C.

Synthetic Rubber Co., Ltd.—Capital £100,000., in £100. shares. This company has been formed to adopt an agreement with F. W. Kinyon and L. Gottschalk, and to carry on the business of manufacturers of and dealers in rubber, guttapercha, balata, and similar substances, dealers in synthetic rubber, etc.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr. lb.	Quarters. Pounds.
Bls.	Bales.	Cas. or Cs.	Cases.						
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.	Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.	
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

LONDON.

Week ending September 28.

Acetic Acid—

Belgium,	71 pks.	Petri Bros.
Norway,	18 cks.	Weber, Smith & Hoare
Holland,	37	W. H. Muller & Co.
,,	35 pks.	,,
,,	54 cks. 54 brls.	Little & Johnston
Norway,	19 cks.	R. Waters
Holland,	5 crbys.	R. W. Greeff & Co.

Acetone—

U.S.A.,	£1,260	P. F. Knowlden

Albumen—

France,	£175	Leach & Co.

Alcohol (Methylic)—

U.S.A.,	3,885 g.	
,,	7,078	P. F. Knowlden

Aluminium Sulphate—

Holland,	£145	Ohlenschlager Bros.
,,	40	Little & Johnston

Ammonium Muriate—

Holland,	£53	H. Lorenz

Antimony Ore—

Germany,	16 t.	Quirk, Barton & Co.

Antimony (Regulus)—

France,	6 c.	H. Johnson, Son & Co.

Argols—

Spain,	54 cks.	Thames S. T. & L. Co.
,,	541 bgs.	B. Jacob & Co.

Arsenic—

Portugal,	£450	Coverley, Westray

Carbon Black—

U.S.A.,	100 cs.	Binney, Smith & Co.
Holland,	5 cks.	W. H. Muller & Co.

Barytes—

Belgium,	86 cks.	Felton & Crepin
,,	190	J. D. Budd
Germany,	26	W. T. Bruce & Co.
,,	21	300 bgs. Felton & Crepin
Holland,	30	W. H. Muller & Co.
,,	30	O. S. Levell & Son
,,	103	J. D. Budd
,,	21	O. Lechla
,,	46 100	W. Harrison

Bones—

Arg. Rep.,	60 t.	J. Nelson & Son

Barium Nitrate—

Germany,	£93	Cotton Powder Co.
,,	18	Jessop & Co.

Barium Oxide—

France,	£110	G. T. Symons & Co.

Calcium Carbide—

Sweden,	9 t.	19 c. M. Dk. Co.
Norway,	50	Societe, Comm de Carbure de Calcium
,,	65 t.	8 c. P. Wiech

Camphor—

France,	153 cs.	R. Warner & Co.
,,	102	L. & I. D. Jt. Co.
Germany,	50	L. & I. D. Jt. Co.
China,	50	R. Warner & Co.

Carbonic Acid Gas—

Holland,	£200	W. H. Muller & Co.

Carbon Tetrachloride—

Germany,	£29	Fuerst Bros.

Caoutchouc—

Germany,	1 t.	1 c.	L. & I. D. Jt. Co.
,,		16	Hale & Son
,,	3	5	S. Figgis & Co.
,,		1	Clarke & Smith
,,	1	15	Wallace Bros.
,,		9	Baxter, Hoare & Co.
,,	1	Props. Bull Wf.	
,,	1	10	Beresford & Co.
France,	1	17	L. & I. D. Jt. Co.
,,		2	H. Kiver Co.
,,	4	10	Baxter, Hoare & Co.
,,		1	Major & Field

Caoutchouc—

Straits,	12 t.	2 c.	E. Boustead & Co.
,,	2	10	Weber, Smith & Hoare
,,	1	10	Shand, Haldane & Co.
,,	6	Prop. Hay's Wf.	
,,	1	15	N. P. Evans
,,	1	3	Lewis & Peat
,,	1	15	Props. Bull Wf.
Ceylon,		2	Dunlop Bros.
,,		7	Props. Bull Wf.
,,		18	L. & I. D. Jt. Co.
,,		1	M. P. Evans
,,		3	Prop. Hay's Wf.
,,		1	Lyall, Anderson
U.S.A.,	4	15	Props. Bull Wf.
Brazil,	1	16	R. M. Packe & Co.
Holland,		8	Cole, Carey
Burmah,	1	8	Props. Bull Wf.
Holland,	6	3	L. & I. Jt. Co.
,,		7	Prop. Hay's Wf.
Natal,	2	5	J. T. Rennie & Son

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Castor Oil—
Belgium, 28 cks. Fuerst Bros.
Italy, 20 cs. C. Zimmermann

Caustic Potash—
Sweden, 49 dms. G. H. Clippingdale
Germany, 25 J. M. Steel & Co.

Chalk (French)—
France, £9 J. Harrison

Chemicals (*otherwise undescribed*)
U.S.A., £6 Woollett, Airey & Co.
,, 2,054 R. W. Greeff & Co.
Holland, 95 W. H. Muller & Co.
,, 15 Luke & Bailey
,, 1,800 A. L. Smith
Germany, 53 N. & R. Collyer
,, 343 A. & M. Zimmermann
,, 241 Argo S.S. Co.
,, 5 T. H. Lee
,, 15 Domeier & Co.
,, 21 L. & I. D. Jt. Co.
,, 5 Prop. Hay's Wf.
Belgium, 10 J. Cockerill Line

Citric Acid—
France, 20 cks. Nicholson's Wvs.
,, 4 B. & F. Wf. Co.

Coal Products—
Alizarine
Germany, 208 cks. London & Rhine S. Office
Aniline
Belgium, 37 pks. J. Cockerill Line
,, 6 Friend & Co.
Germany, 14 cs. L. & I. D. Jt. Co.
Pitch
Sweden, 100 cks. Sievehing, Podmore & Wright
Germany, 628 brls. Fellows, Morton & Co.
N. Russia, 73 cks. Belinda, Bros. & Co.
Tar
N. Russia, 10 hhds. London Oil S. Co.
,, 100 cks. G. J. Daneschewsky
Tar Salt
Germany, £50 F. Fenner

Copper Ore—
E.S.W., 51 t. London Welsh S.S. Co.
Peru, 37 J. W. Cook & Co.
Arg. Rep., 42 ,,
P. E. Africa, 4 c. G. W. Wheatley & Co.

Cottonseed Oil—
France, 6 cks. A. C. Hitchcock

Cream of Tartar—
Holland, 6 cks. Kirkpatrick,
,, 20 kgs. Barr & Co.
France, 2 cks. R. Warner & Co.
,, 28 W. C. Bacon & Co.
,, 4 Kealey & Tonge
,, 2 T. H. Lee
Holland, 24 Kirkpatrick, Barr & Co

Dextrine—
Germany, 3 t. M. Dk. Co.

Disinfectants—
France, £60 Mory & Co.

Dyestuffs—
Gutch
Straits, 263 bgs. H. Grey
249 bxs. & Co.
Divi Divi
E. Indies, 96 bgs. H. J. Perlbach & Co.
Saffron
Spain, 3 cs. J. Barber & Co
Sumac
Italy, 100 bgs. L. & I. D. Jt. Co.
,, 100 J. Johnson
Tanners' Bark
Natal, 188 t. J. T. Rennie & Son
Tannin Extract
Belgium, 40 cks. Hoare, Wilson & Co.
France, 49 H. Johnson, Sons & Co.
,, 50 A. J. Humphery

Dyestuffs—
Valonia
A. Turkey, 116 t. A. Brookbank & Co.
,, 49 Adam Bros.
,, 50 Lowe & Hurley
,, 20 Boutcher, Mortimore & Co.

Farina—
Holland, 13 t. J. Barber & Co.
Germany, 1 M. Dk. Co.

Gelatine—
Belgium, £363 J. Cockerill Line
France, 44 Mory & Co.
Holland, 40 Van Dam & Co.

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glycerine—
Holland, £40 W. H. Muller & Co.
,, 38 J. Barber & Co.

Glue—
France, £16 Duche & Son
Belgium, 144 R. Ulrich
France, 234 Mory & Co.
Germany, 31 London & Rhine S. Office
Belgium, 352 Duche & Son
,, 18 R. Ulrich
,, 95 Leach & Co.
Holland, 43 Van Dam & Co.
N. Russia, 420 Ihlee & Sankey
Germany, 13 L. & I. D. Jt. Co.
France, 20 Bennett & Co.
U.S.A., 200 W. Davis
Holland, 82 Van Dam & Co.
,, 7 W. H. Muller & Co.
Aust. Hung., 28 United S. Co.
Belgium, 40 J. Cockerill Line
Holland, 20 Hernu, Peron & Co.
,, 6 W. H. Muller & Co.

Glue Stock—
N. Zealand, 1 t. 15 c. F. J. & T. Powell
E. Indies, 15 6 Cayzer, Irvine & Co.

Gutta Percha—
Straits, 20 t. Indiarubber G. P. & T. W. Co.

Lactic Acid—
Germany, 2 cks. A. Kempin

Linseed Oil—
Holland, 5 cks. Phillipps & Graves

Lithopone—
Belgium, 20 cks. J. L. Lyon & Co.
,, 1 J. T. Lauderdale
Holland, 30 A. Zumbeck & Co.
,, 10 Felton & Crepin
,, 46 J. F. Lauderdale
,, 40 Burrel & Co.
,, 8 F. T. H. Nye
,, 10 Gross, Sherwood & Co.
,, 10 S. White

Magnesia—
Germany, £50 L. & I. D. Jt. Co.

Magnesite—
Germany, £62 Argo S.S. Co.
Holland, 23 Wolf & Co.
,, 30 W. H. Muller & Co.

Magnesium Chloride—
Germany, £144 Humphrey & Co.

Manganese Ore—
Belgium, 100 t. P. & O. S. N. Co.
Germany, 11 A. C. Lloyd
,, 2 Argo S.S. Co

Olive Oil—
France, 1 t. 63 gals. L. & N. W. Rly.
,, 1 108 Gill & Duffus
,, 1 Carter, Paterson & Co.
,, 60 Atkins & Nisbet
Italy, 56 G.M.Largen
France, 1 E. Guillard
A. Turkey, 20 W. A. Rose

Paraffin Scale—
U.S.A., 196 t. 11 c. Anglo-American Oil Co.

Paraffin Wax—
Germany, 10 t. P. J. Johnson
Holland, 9 1 c. Leach & Co.
E. Indies, 9 10 Montgomerie & Workman
Holland, 2 16 Phillipps & Graves

Phosphoric Acid—
Belgium, 16 cbys. Redmeyer & Co.

Phosphate of Lime—
Tunis, 618 t. Hunter, Lomer & Co.

Plumbago—
Germany, 127 cs. E. & T. Pink
France, 21 bgs. Litchfield & Soundy
,, 64 sks. L. & I. D. Jt. Co.
Ceylon, 237 bgs. Marshall & French
,, 135 brls. G. R. Haller & Co.
,, 40 H. Grey, junr.
,, 512 Thredder, Son & Co.

Potassium Bichromate—
Holland, £160 J. N. Steel & Co
,, 11 cks. A. & M. Zimmermann

Potassium Carbonate—
Belgium, 6 cks. Charles & Fox
Germany, 21 L. & I. D. Jt. Co.
France, 14 Petri Bros.

Potassium Chlorate—
Sweden, 60 kgs. G. Boor & Co.
France, 9 cks. J. Harrison

Potassium Prussiate—
Holland, 3 cks. J. Owen

Pyrites (Copper)—
Spain, 1,608 t. Anderson, Anderson & Co.

Pyrogallic Acid—
Holland, 2 cs. W. H. Muller & Co.

Red Lead—
Germany, 33 cks. J. D. Budd
,, 104 J. Barber & Co.
France, 35 Sollas & Son
,, 100 J. Watt & Son
Holland, 31 F. T. H. Nye
,, 11 pks. W. H. Muller & Co.

Ripolin—
Holland, 9 pks. Phillipps & Graves

Rosin—
Holland, 22 pks. Van Dam & Co.
Spain, 85 brls. Phillipps & Graves
France, 100 cks. Watt & Son

Saltpetre—
Germany, 65 t. 1 c. P. Hecker & Co.
E. Indies, 175 Lucas & Spencer's Wf.

Silver Ore—
U.S.A., £1,220 B. Ackerley

Soap—
Italy, £11 L. E. Penn
,, 23 Birdseye Co.
Holland, 30 W.H.Muller & Co
France, 40 Mory & Co.
,, 56 B. & F. Wf. Co.
,, 20 D. W. Gidds
Germany, 25 Hertz & Co.
U.S.A., 108 Armour & Co.
,, 524 Lunham & Moore

Soap Powder—
Germany, £416 London & Rhine S. Office

Soda—
France, 4 c. Pickfords Ld.
Belgium, 2 t. 11 J. Harrison
Germany, 3 T. H. Lee
,, 5 R. W. Greeff & Co.
,, 6 Argo S.S. Co.
Holland, 12 W.H.Muller & Co.

Soda Ash—
Holland, 20 t. W. T. Bruce & Co.

Soda Crystals—
Belgium, 25 t. G. A. Loos & Co.
Holland, 50 W.H.Muller & Co.

Starch—
Belgium, 4 t. 8 c. Leach & Co.
,, 2 8 G. S. N. Co.
,, 17 13 E. T. Pink
,, 8 J. Harrison & Co.
Holland, 2 Kay, Mayo
,, 80 12 W. H. Muller & Co.
,, 34 Little & Johnston
,, 10 15 J. Barber & Co.
,, 3 11 Robinson, Roberts & Co.
,, 10 Henderson, Craig & Co.
,, 2 10 Van Dam & Co.
France, 17 A. C. Hitchcock
Germany, 1 B. & F. Wf. Co.
U.S.A., 25 Bennett's Haulage Co.
,, 15 19 Skilbeck Bros.

Stearine—
Belgium, 126 g. G. Jennings

Strontium Nitrate—
Germany, £31 Jessop & Co.

Sulphur—
Italy, 5 t. Hunwicke, Hadley

Tallow—
N.S.W., 12 cks. Anning & Cobb
,, 111 E. L. Annott
,, 26 A. J. Humphery
,, 7 Dalgety & Co.
,, 48 Lucas & Spencer's Wf.
N. Zealand, 9 Hill & Sons
,, 10 Sanderson, Murray & Co.
,, 163 Thornett & Fehr
,, 117 Leach & Co.
,, 217 L. & I. D. Jt. Co.
,, 33 Morrison & Co.
,, 17 N. Z. L. & M. A. Co.
,, 150 Dalgety & Co.
,, 5 Knight Bros.
,, 72 Leach & Co.
,, 2 Weber, Smith & Hoare
,, 236 J. Owen
,, 62 W.H.Muller & Co.
Falkland I., 9 Langstaff Chemical Co.
Queensland, 25 E. L. Annott
,, 128 Phillipps & Graves
Argentine, 115 Bessler, Waechter & Co.
,, 285 France, Fenwick & Co.
Japan, 200 Hall & Son

Tartaric Acid—
Holland, 20 kgs. B. & F. Wf. Co.
,, 1 cs. Van Dam & Co.

Tannic Acid—
Holland, 3 cs. W. H. Muller & Co.

Thermit—
Holland, £528 J. Barber & Co.

Thorium Nitrate—
Germany, £320 T. H. Lee
,, 385 Argo S.S. Co.

Turpentine—
N. Russia, 104 brls. London Oil Storage Co.
France, 50 J. Watt & Son

Ultramarine—
Holland, 1 ck. A. Foley & Co.
,, 9 cs. W. H. Muller & Co.
Belgium, 5 Leach & Co.
Holland, 9 W. Harrison

Vanillin—
Germany, £369 L. & I. D. Jt. Co.

Wax—
B.W.I., 1 brl. Dalton & Young
,, 1 cs. Weber, Smith & Hoare
Germany, 181 bgs. T. H. Lee
,, 77 serons Wallace Bros.
,, 29 bgs. L. & I. D. Jt. Co.
,, 5 bdls. Clarke, Smith

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Wax—
N.S.W., 8 bdls. Birdseye Co.
Holland, 25 Fuerst Bros.
,, 20 W. H. Muller & Co.
,, 9 L. & I. D. Jt. Co.
,, 8 pks. T. Holloway
Belgium, 15 cs. Thomas & Co.
Aden, 29 bgs. H. J. Perlbach & Co.
Japan, 10 cs. Berrick Bros.
U.S.A., 50 bgs. Beresford & Co.
Egypt, 62 J. T. Rennie & Co.

White Lead—
U.S.A., 34 brls. R. W. Greeff & Co.
Germany, 37 cks. Randall Bros.
Belgium, 37 Burrell & Co.
,, 55 T. W. Farmiloe
Germany, 2 Argo S.S. Co.
Holland, 13 F. T. H. Nye

Zinc Ashes—
N.S.W., 4 t. J. W. Cook

Zinc White—
Holland, 2 cks. W. H. Muller & Co.

Zinc Oxide—
Holland, 260 cks. Litchfield & Soundy
U.S.A., 300 brls. M. Ashby
Belgium, 10 J. L. Lyon
Germany, 30 Weber, Smith & Hoare
Holland, 138 M. Ashby

LIVERPOOL.

Week ending September 26.

Albumen—
Havre, 11 cs.

Aluminium—
Havre, 268 bgs.

Ammonium (Saltpetre)—
Rotterdam, 31 cks.

Ammonium Sulphate—
Rotterdam, 20 cks.
Havre, 2

Antimony—
Marseilles, 2 bgs.

Argols—
Oporto, 23 cks.

Arsenic—
Oporto, 55 cks.
12

Barium Sulphate—
Antwerp, 86 cks.
590 bgs.

Barytes—
Antwerp, 45 brls.
R'terdam, 275 bgs.
12 cks.

Beeswax—
Hamburg, 5 brls.
Conakry, 2 trcs. Diaper & Co.
,, 20 cks. Soc. Com. de I. of Africa
Burutu, 9 cs. Niger Co., Ld.

Bone Black—
Philadelphia, 50 brls.

Bone Meal—
River Plate, 123 bgs. River Plate F. M. Co.

Bones—
Lisbon, 366 bgs.
Marseilles, 50 cs.
M. Video, 681
Vera Cruz, 671
Alexandria, 635

Boracic Acid—
Panderma, 500 t.

Caoutchouc—
Havre, 14 cs. a qty.

Castor Oil—
Marseilles, 12 cks.
Antwerp, 14 brls.

Chalk—
Hamburg, 10 cs.

Chemicals (*otherwise undescribed*)
Dunkirk, 50 cks.

Coal Products—
Pitch
New York, 511 brls.
Tar
Archangel, 2,805 brls.

Colours—
Hamburg, 2 pks.
Rotterdam, 6 cs.

Cottonseed Oil—
New York, 25 brls.
,, 50 Proctor & Gamble

Cream of Tartar—
Barcelona, 6 cks.
Bordeaux, 62

Dried Blood—
B. Ayres, 911 bgs. Liebig's Ext. M. Co.
River Plate, 123 River Plate F. M. Co.

Dyestuffs—
Cochineal
Gd. Canary, 9 bgs. Hitch & Co.
Cutch
Rangoon, 370 bxs.
Dyewood Extract
New York, 20 pks.
Philadelphia, 25 brls.
Fustic
Constanti'ple, 23 t. 2 c.
Myrabolans
Bombay, 1,350 bgs.
Oak Extract
Fiume, 517 brls.
Venice, 847
Quebracho Extract
B. Ayres, 2,024 bgs.
Tannin Extract
Bordeaux, 460 cks.
,, 350 Francis & Co.
Marseilles, 200
Valonia
Smyrna, 136 bgs.
30 t.
Vanilla
Marseilles, 2 cs.

Ferro Chrome—
Rouen, 23 cks. Blackwell, Sons & Co.

Glue—
Fiume, 100 bls.
Marseilles, 20 bgs. Grove Chem Co.
New York, 2 brls. Yarwood & Son
Boston, 16
Antwerp, 3 cks.
Rouen, 6 Co-op. W'sale Soc.
Marseilles, 10 20 cs.

Glue Stock—
Marseilles, 200 bgs. Murray & Co.
,, 200

Horn Piths—
B. Ayres, 5 t.
Antwerp, a qty.

Kainit—
Hamburg, a qty.

Lactic Acid—
Rotterdam, 15 cks.

Linseed Oil—
Antwerp, 15 brls.

Litharge—
Rotterdam, 67 cks.

Lithopone—
Rotterdam, 100 cks.

Magnesite—
Fiume, 154 cs.

Manganese Ore—
Bombay, 500 t.

Manganese Silico—
Bordeaux, 59 cks.

Manure—
Antwerp, 300 bgs.

Mineral White—
Bordeaux, 200 bgs. Francis & Co.
Trieste, 200

Molasses—
Bahia, 1 brl. Millward, Bradbury & Co.

Oleine—
Antwerp, 3 cks.

Olive Oil—
Marseilles, 11 cs. L. & Y. Rly. Co.
,, 11 T. J. Smith
,, 31 cks.
Smyrna. 200 brls.
Barl. a

Olive Oil—
Bordeaux, 650 cs. 5 bdls.

Phosphorus—
Montreal, 200 cs.

Potash—
Rouen, 43 cks. Co-op. W'sale Society
Portland, 36 Isham & Isham
Dunkirk, 3 100 dms.

Potassium Permanganate—
Hamburg, 20 cks.

Potassium Prussiate—
Antwerp, 4 cks.

Pyrites (Iron)—
Huelva, 3,706 t.

Red Lead—
Rotterdam, 58 cks.

Rosin—
Lisbon, 58 brls. 60 cks. Levita & Co.
Bordeaux, 195

Rubber—
Bahia, 32 brls. 64 bls.
Parahyba, 9 2 cs.
Colombo, 30 pks.
Hamburg, 33 cks.
W. C. Africa, 16 pks.
New York, 72 bls.
,, 2 cs. Symington & Co.
Saltpond, 1 ck. Russell & Co.
Gd. Bassam, 5 Cie Francaise
,, 1 Pickering & Berthoud
,, 3 Paget, Digby & Co.
Lahou, 2
S. Leone, 1 Pickering & Berthoud
Conakry, 5 Cie Francaise
Conakry, 3 Paterson, 11 brls. Zochonis & Co.
,, 12 Broadhurst.
1 ck. Sons & Co,
,, 5 Diaper & Co.
,, 7 Soc. Com. de I. of Africa
Burutu, 2 pks. Christian & Co.
Lagos, 8 Paterson, Zochonis & Co.
,, 3 cks. Mc'Iver & Co.
,, 1 Miller, Bros. & Co.
Accra, 4 J. P. Werner
C. Coast, 3 F. & A. Swanzy
,, 4
,, 1 Fischer & Co.
,, 1 African Assoc.
,, 2 Russell & Co.
S. Leone, 2
Pernambuco, 12 bgs.
Manaos, 846
Fara, 782
Montreal, 195
Antwerp, 48 pks.
Vera Cruz, 1 bdl.

Salt (Waste)—
Hamburg, 100 t.

Soap—
Marseilles, 694 cs. T. J. Smith
,, 15
New York, 260
Boston, 9 W. Foggitt
New York, a qty. Colgate & Co.

Soap Powder—
New York, 500 bxs. B. T. Babbitt

Sodium Arseniate—
Antwerp, 8 kgs.

Starch—
Marseilles, 40 bgs.
Rotterdam, 75 cs.
Amsterdam, 40 pks.
Venice, 200
Antwerp, 421 Fletcher & Co.
,, 20

Stearine—
Rouen, 100 bgs. Co-op. W'sale Soc.
River Plate, 100 River Plate F. M. Co.
Antwerp, 39

Sulphur—
Bona, 6 bgs.

Talc—
Bordeaux, 51 bgs

Tallow—
New York, 150 brls. Lane & Co.
River Plate, 103 cks. River Plate F. M. Co.
B. Ayres, 944
New York, 1 trc.

Tartaric Acid—
Marseilles, 10 cks.
Bordeaux, 6

Tin Ore—
Burutu, 1,002 bgs.

Ultramarine—
Rotterdam, 32 cks.

Wax—
Marseilles, 15 cs.
Philadelphia, 375 brls.
Conakry, 7 bdls.

Wax (Scale)—
Baltimore, 100 brls.

White Lead—
Rotterdam, 95 cks.

Zinc Oxide—
New York, 300 brls.
Antwerp, 44

Zinc White—
Rotterdam, 40 cks.

MANCHESTER.

Week ending September 28.

Ammonium (Anhydrous)—
Rotterdam, 25 cks.

Asbestos—
Rotterdam, 10 crts.

Barytes—
Antwerp, 12 cks.
Rotterdam, 16 390 bgs.

Carcium Carbide—
Sarpsborg, 230 dms.

Carbonic Acid Gas—
Rotterdam, 10 tubes

Ceresine—
Rotterdam, 10 bgs.

Chalk—
Rouen, 9 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 2 cks.
Rotterdam, 49 pks.
Fredriksstad, 4

Coal Products—
Aniline Oil
Rotterdam, 4 blns. 28 dms.
Creosote Salt
Rotterdam, 32 cks.
Paranitraniline
Rotterdam, 5 brls.
Toluidine
Rotterdam, 2 dms.

Colours—
Boston, 100 cs.
Hamburg, 2
R'tterdam, 75 cks. 2 302 pks. 145 brls.

Dextrine—
Stettin, 135 bgs. Brown, Geveke & Co.
,, 20

Dyestuffs—
Indigo Paste
Rotterdam, 5 brls.
Tannin
Antwerp, 5 cks. Fletcher & Co.
Tannin Extract
Bordeaux, 25 cks.
Stettin, 30 30 cs.

Farina—
Hamburg, 5 cks.
Rotterdam, 50 bgs.
Stettin, 2,895
,, 1,715 Brown, Geveke & Co.

Felspar—
Gothenburg, 300 bgs.

Gelatine—
Rouen, 10 cs.
Rotterdam, 10

Glucose—
Stettin, 100 bgs. 22 cks.

Glue—
Antwerp, 10 cs. 20 bgs. 108 bls.
Boston, 10 brls.
Hamburg, 24 cks.
Rouen, 10 bgs.

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Lead Acetate—
Stettin, 21 cks.
Litharge—
Rotterdam, 15 cks.
Magnesia—
Philadelphia, 40 cs.
Magnesite—
Rotterdam, 53 bgs.
Paraffin Wax—
Philadelphia, 642 brls.
Potash—
Hamburg, 8 cks.
Rouen, 2
Potassium Prussiate—
Antwerp, 19 cks.
Rotterdam, 7
Amsterdam, 18
Potassium Sulphate—
Hamburg, 500 bgs.
Pyrites—
Pomaron, 23 t.
Red Lead—
Rotterdam, 6 cks.
Rosin—
Philadelphia, 900 brls.
Soap—
Boston, 10 cs.
Rotterdam, 5
Philadelphia, 13 bxs.
Soda Crystals—
Antwerp, 19 cks. Fletcher & Co.
Sodium Nitrite—
Rouen, 24 cks.
Sodium Phosphate—
Antwerp, 17 cks. Fletcher & Co.
Starch—
Dunkirk, 30 cks.
Amsterdam, 5
Antwerp, 738 cs.
Rotterdam, 20
Stearine—
Antwerp, 13 bgs.
Sulphite of Lime—
Rouen, 2 bgs.
Tannic Acid—
Rotterdam, 10 cks.
Hamburg, 29
Ultramarine—
Rotterdam, 2 cks. 34 pks.
Wax—
Boston, 2 cs.
Hamburg, 20 bgs.
Zinc Oxide—
Rotterdam, 70 brls. 4 cks.

HULL.

Week ending September 28.

Barytes—
Antwerp, 20 cks.
Bremen, 20 Veltmann & Co.
Rotterdam, 9 Hull & N. S.S. Co.
Calcium Carbide—
Christiania, 20 dms. Wilson, Sons & Co.
Drontheim, 250 "
" 550 "
Chemicals (*otherwise undescribed*)
Rotterdam, 24 cks. Hull & N. S.S. Co.
Dunkirk, 170 Woodhouse & Co.
Rouen, 25 cks.
Hamburg, 3 bgs. Wilsons & N.E. R. S. Co.
Bremen, 20 cs. Veltmann & Co.
Coal Products—
Alizarine
Rotterdam, 41 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 183 pks. Hull & N. 82 cks. S.S. Co.
Pitch
Archangel, 350 cks.
Antwerp, 4 Wilsons & N.E. R. S. Co.
Tar
Archangel, 3,218 brls.
Tar Oil
Archangel, 50 brls.
Colours—
Antwerp, 18 pks. Wilsons & N.E. R. S. Co.
Campana, 33 cks.2 cs.
Dextrine—
Stettin, 100 bgs.
Dyestuffs—
Sumac
Trieste, 5 bdls. Wilson, Sons & Co.
Farina—
Stettin, 50 bgs.
Harlingen, 100 Hull & N. S.S. Co.
Ferro Chrome—
Dunkirk, 49 cks. Wilsons & N.E. R. S. Co.
Ferro Silicon—
Gothenburg, 10 cks.
Glucose—
Rotterdam, 60 bgs. Hull & N. S.S. Co.
Lead Ore—
Tampico, 9,600 brls.
Linseed Oil—
Harlingen, 80 bgs. Hull & N. S.S. Co.
Manganese Ore—
Bombay, 2,000 t.
Manure—
Antwerp, 40 bgs.
Mineral White—
Trieste, 100 bgs. Wilson, Sons & Co.
Oxalic Acid—
Hamburg, 6 cks.
Paraffin Wax—
Boston, 1,040 brls.
Potash—
Bremen, 50 dms. Wilson, Sons & Co.
Hamburg, 10 cks. 20 dms.
Rubber—
Antwerp, 29 bgs. Wilsons & N.E. R. S. Co.
Starch—
Bremen, 1,688 cs. Veltmann & Co.
Antwerp, 100
Boston, 200 bgs.
Tallow—
Antwerp, 4 cks. Wilsons & N.E. R. S. Co.
Tin Oxide—
Rotterdam, 9 brls. Hull & N. S.S. Co.
Turpentine—
Archangel, 71 brls.
Ultramarine—
New York, 41 cs.
Bremen, 20 Veltmann & Co.
White Lead—
Amsterdam, 41 cks. Hull & N, S.S. Co.
Zinc Oxide—
Boston, 350b rls. Wilson, Sons & Co.
Hango, 25 cks.

GLASGOW.

Week ending October 3.

Acetic Acid—
Rotterdam, 26 cks.
Asbestos—
Rouen, 23 pks.
Barium Sulphate—
Antwerp, 89 cks.
Carbonate of Lime—
Marseilles, 20 cks.
Castor Oil—
Marseilles, 31 cks.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 cs.
Coal Products
Alizarine
Rotterdam, 38 pks.
Pitch
Marseilles, 1 brl.
Colours—
Rotterdam, 28 pks.
Cream of Tartar—
Valencia, 10 brls.
Marseilles, 20 cks.
Dyestuffs (*otherwise undescribed*)—
Boston, 2 cs.
Fish Oil—
Hamburg, 1,000 cs.
Kainit—
Hamburg, 500 bgs.
Lead Nitrate—
Rouen, 18 cks.
Linseed Oil—
Marseilles, 2 cks.
Litharge—
Rotterdam, 2 cks.
Magnesite—
Trieste, 222 bgs.
Christiania, 122
Magnesium Sulphate—
Rouen, 4 cks.
Mineral White—
Venice, 200 bgs.
Trieste, 800
Olive Oil—
Marseilles, 1 cs.
Potassium Muriate—
Hamburg, 2,000 bgs.
Potassium Prussiate—
Hamburg, 4 cks.
Rotterdam, 5
Soap—
New York, 22 cs.
Soap Lyes—
Marseilles, 30 dms.
Soap Powder—
New York, 2,200 bxs.
Sodium Salicylate—
Rotterdam, 5 cs.
Starch—
Amsterdam, 50 bgs.
Sulphur Chloride—
Rotterdam, 34 bdls.
Tartar—
Bordeaux, 62 cks.
Ultramarine—
Rotterdam, 42 pks.
White Lead—
New York, 11 brls.
Rotterdam, 18 cks.
Zinc Oxide—
Antwerp, 180 cs.
Zinc White—
Rotterdam, 10 cks.

TYNE.

Week ending September 25.

Acetic Acid—
Antwerp, 25 cks.
Aluminium—
Hamburg, 3 cks. Tyne S.S. Co.
Antimony—
Hamburg, 623 bars Tyne S.S. Co.
Antimony Ore—
Antwerp, 1,700 bgs. Tyne S.S. Co.
Hamburg, 1,179 "
Barytes—
Rotterdam, 32 cks. Tyne S.S. Co.
Antwerp, 10 "
Bog Ore—
Antwerp, 110 t. Tyne S.S. Co.
Colours—
Rotterdam, 2 cks. Tyne S.S. Co.
Antwerp, 52 btls. "
Lithopone—
Antwerp, 20 cks. Tyne S.S. Co.
Phosphate—
St. Valery, 300 t. Landal Chem. Manure Co.
Pyrites—
Trondhjem, 30 t. Bede M. & C. Co.
Starch—
Rotterdam, 60 cks. Tyne S.S. Co.
Sulphide Ore—
Hamburg, 1,079 bgs. Tyne S.S. Co.
Tartar—
Hamburg, 10 cks. Tyne S.S. Co.
Ultramarine—
Rotterdam, 1 cs. Tyne S.S. Co.

GOOLE.

Week ending September 28.

Caoutchouc—
Boulogne, 7 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 22 cks. 135 bgs.
Rotterdam, 10
Boulogne, 23 3 cs.
Hamburg, 30 9
Colours—
Antwerp, 2 cks.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 54 cks.
Boulogne, 2
Hamburg 190 15 cs. 300 bgs.
R'tterdam 119 8 cs. 15 bgs.
Farina—
Rotterdam, a qty.
Delfzyl, 50 bgs.
Hamburg, 7 cs.
Glue—
Antwerp, 10 bgs.
Glue Stock—
Ghent, 28 bgs.
Magnesite—
Amsterdam, 150 bgs.
Phosphate—
Boulogne, 915 bgs.
Potash—
Dunkirk, 20 dms.
Pyrites (Copper)—
Lisbon, 1,250 t.
Salt (Waste)—
Hamburg, 519 t.
Starch—
Ghent, 16 cs.
Antwerp, 10
Stearine—
Antwerp, 3 brls.
Boulogne, 13 cks.
Sulphur—
Antwerp, 8 cs.
Wax—
Hamburg 20 cs. 10 bgs.

GRIMSBY.

Week ending September 25.

Acetic Acid—
Helsingborg, 40 cs.
Rotterdam, 8 pks.
Albumen—
Hamburg, 1 cs.
Barytes—
Rotterdam, 70 bgs.
Calcium Carbide—
Christiania, 50 cs.30 dms
Caoutchouc—
Hamburg, 43 cs.
Antwerp, 2
Rotterdam, 3 pks.
Chemicals (*otherwise undescribed*)
Hamburg, 2 cs. 10 cks. 612 trcs.
Coal Products—
Creosote
Helsingborg, 3 cs.
Colours—
Antwerp, 12 cks. 81 pks.
Hamburg, 6 31
Rotterdam, 5 7 dms.
Glue—
Hamburg, 200 bgs.
Glue Stock—
Hamburg, 264 bgs.
Lithopone—
Hamburg, 32 cks.
Saltpetre—
Hamburg, 10 kgs.
Soda—
Antwerp, 20 cks.
Starch—
Antwerp, 82 cs.

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EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 2.

Alcohol (Wood Spirit)—
Dunkirk, 1,156 g.
Rouen, 345

Alum—
Madras, 2 t. 2 c. £49

Ammonia—
Cape Town, 11 cs. £18
Algoa Bay, 21 pks. 7
H. Kong, 2 6
Huelva, 5 6
Rotterdam, 4 5
Shanghai, 5 7
Calcutta, 14 20
Singapore, 6 26
Boulogne, 4 5
Karachi, 3 9
Valparaiso, 8 12
Antofagasta, 4 8
Rangoon, 6 8
Durban, 15 36
Beira, 3 5
Cadiz, 1 dm. 17

Ammonia (Anhydrous)—
Rangoon, 2 cs. £8
Bombay, 5 40
Colombo, 10 36

Ammonium Carbonate—
Dunkirk, 18 cks. £30
Hamburg, 38 409
Bordeaux, 1 2 c. 30
S.Petersburg, 10 20
Alexandria, 2 cs. 7
Wellington, 5 9
Norrkoping, 6 18
Aarhus, 10 28
Konigsberg, 1 38
Rangoon, 7 13
C. Town, 2 7

Ammonium Muriate—
Dusseldorf, 5 t. £107

Ammonium Nitrate—
Melbourne, 7 cks. £40

Ammonium Sulphate—
Boston, 39 t. 8 c. £465
Nogi, 100 2 1,201
Yokohama, 350 4,192
Valencia, 300 19 3,612
Kobe, 100 1,196

Arsenic—
Shanghai, 10 cks. £65

Asbestos—
Bombay, £132
Cape Town, 45
Colombo, 12
Calcutta, 41

Bisulphite of Lime—
Bombay, 20 brls. £28

Bone Meal—
Jersey, 3 t. 1 c. £15

Boracic Acid—
Mauritius, 5 c. £7
Bombay, 10 14

Borax—
Sydney, 5 t. 13 c. £250
Colombo, 1 5
Rotterdam, 1 17 81

Calcium Chloride—
Shanghai, 5 c. £7
Nagasaki, 5 6

Caustic Soda—
Durban, 10 c. £5
H. Kong, 1 t. 16
Rockhampton, 5 7

Chalk—
Hiogo, 12 t.

Chemicals (*otherwise undescribed*)
Boulogne, 1 pk. £5
Ostend, 4 cs. 105
Trinidad, 2 28
Madras, 2 7
St. Petersburg, 3 133
Shanghai, 40 88
Bombay, 20 cks. 1 36
Beira, 20 36
Delagoa Bay, 41 86
Toronto, 4 50
Hamilton, 80 204
H. Kong, 2 18
R'hampton, 40 64
Sydney, 6 20

Chemicals (*otherwise undescribed*)
Antwerp, 13 pks. £16
Brussels, 1 cs. 9
Paris, 4 dms. 5
Sydney, 19 20
Colombo, 95 cks. 158
Calcutta, 1 7 10 61
Copenhagen, 20 59
M. Video, 1 30
Alexandria, 2 13
Hamburg, 1 20
Durban, 1 21
Karachi, 20
Melbourne, 4 10
Bari, 2 27

Citric Acid—
Auckland, 3 c. £28
New York, 5 43
Cape Town, 2 5
Malta, 1 6
Channel Isles, 1 cs. 6
Karachi, 2 bgs. 1 12
Colombo, 1 9
Shanghai, 1 11
Hamburg, 16 120
Montreal, 8 69

Coal Products—
Alizarine
Cologne, 17 cks. £587
Bombay, 304 1,027
Alizarine Dye
Lyttelton, 70 cks. £190
Aniline Dye
Melbourne, 1 cs. £8
Sydney, 2 16
Aniline Salt
Leghorn, 6 cks. £100
Benzol
Treport, 72 cks. £100
Carbolic Acid
Shanghai, 5 dms. £5
Brisbane, 20 9
Auckland, 20 8
Adelaide, 10 cks. 17
Montreal, 23 cs. 116
Toronto, 6 25
Rotterdam, 49 cks. 175
New York, 60 40 520
Philadelphia, 40 257
Amsterdam, 121 384
Rangoon, 40 10
Carbolic Acid (Crystals)
Wellington, 3 cs. £15
Sydney, 6 pks. 9
Creosote
Zanzibar, 15 dms. £5
Naphtha
Loanda, 10 dms. £6
Naphthaline
Shanghai, 50 cs. £75
P. Said, 17 15
Pitch
St. Nazaire, 20 cks. £15
Newcastle, 10 brls. 10
Hamburg, 300 710
Rangoon, 75 25
Mariopol, 3,340 t. 4,468
Pyridine
Sydney, 3 dms. £37
Pyridine Base
Cologne, 16 dms. £551
Tar Oil
Gothenburg, 300 cks. £240
Rotterdam, 10 13
Hamburg, 250 129
New York, 200 335
Tar
P. Arenas, 12 dms. £6
Boulogne, 1 ck. 16
Toluol
Bremen, 6 cks. £15
Cologne, 46 dms. 410

Copper Sulphate—
S.Petersburg, 5 t. £120
Quitemine, 6 c. 8
Beira, 6 8

Cottonseed Oil—
Amsterdam, 8 t. 9 c.
Antwerp, 49 18
Marseilles, 84 11
Oran, 5 19
P. Said, 1 16

Cream of Tartar—
Melbourne, 18 c. £60
Singapore, 1 6

Cyanide (*otherwise undescribed*)—
Sydney, 6 t. 8 c. £464

Disinfectants—
Adelaide, 4 cs. £10
Algoa Bay, 12 dms. 2
Bombay, 5 7
Calcutta, 50 75
Cochin, 1 ck. 1 7
Danzig, 12 12
Durban, 2 172 32
Hamburg, 10 20
Karachi, 6 40 pks. 23
Manila, 30 18
Port Darwin, 9 cs. 22
Melbourne { 10 kgs. 10 / 14 bgs, 2 / 10 dms.
Montreal, 12 26
Odense, 2 cks. 38
Shanghai, { 90 t. / 11 pks. 50 205
Singapore, 265 30
St. Petersburg, 6 6 kgs. 50
Sydney, 5 cks. 40
Lyttelton, 24 2 151
Wellington, 16 46

Fertiliser—
Rochefort, 98 t. 1 c. £375
Boston, 6 2 51
Anping, 15 28
Tokio, 1 1 28

Glycerine—
New York, 6 t. 4 c. £197
Cape Town, 5 16
Shanghai, 5 13
Delagoa Bay, 1 5

Hydrochloric Acid—
Shanghai, 10 c. £11

Linseed Oil—
Adelaide, 2 t.
Alexandria, 14 14 c.
Auckland, 11 2
Azores, 1 4
Bagdad, 1
Bangkok, 4
Bombay, 2 8
Brisbane, 10
Broome, 8
B. Ayres, 10
Calcutta, 4
Christchurch, 1 5
Durban, 2 7
H. Kong, 8 13
Lyttelton, 1 16
Manila, 2 3
Melbourne, 2
Nelson, 2 3
New Plymouth, 12
Ostend, 74 13
Paris, 1 1
P. Elizabeth, 10
Singapore, 1 18
Wellington, 8 14
Brussels, 10
B. Ayres, 15
Cebu, 10
Coquimbo, 19
E. London, 1 6
Melbourne, 4
Natal, 13
Newcastle, 5 7
Ostend, 140
P. Elizabeth, 14
St. Thomas, 1
Shanghai, 1 2
Singapore, 2 11
Sydney, 1
Tripoli, 14
Valparaiso, 10 19
Wellington, 24 16
Yokohama, 17

Manure—
Durban, 17 t. £90
Azores, 49 4 c. 160
Morlaid, 165 325
Sanderscan, 170 675
Lisbon, 300 715
Copenhagen, 1 16
St. Briene, 85 212
Rangoon, 1 7
Boston, 2 7 37
Brest, 205 170
Durban, 6 34
Jersey, 3 10

Muriatic Acid—
Hamburg, 4 c. £5

Oleine—
Dunkirk, 45 t.

Phosphorus—
Sydney, 5 cs. £33

Phosphorus (Amorphous)—
Srychas, 2 cs. £20

Plumbago—
H. Kong, 19 c.

Potassium Bicarbonate—
Shanghai, 4 c. £8

Potassium Cyanide—
Calcutta, 3 c. £13
Beira, 1 5
Shanghai, 2 12

Potassium Sulphate—
Ochagalor, 74 t. £757

Quinine—
Calcutta, 4,000 ozs.
Tripoli, 355

Salammoniac—
Mersine, 1 brl. £6
Sydney, 5 c. 11

Salt—
Durban, 4 t.
Karachi, 2
Tientsin, 7

Saltcake—
Gothenburg, 10 t. £75

Saltpetre—
Para, 10 c. £13
Durban, 22 23
Wellington, 5 kgs. 6

Sheep Dip—
B. Ayres, 536 t. 8 c. £1,730
Montreal, 10 5

Soap—
Amoy, 1 c.
Amsterdam, 11
Auckland, 2 t. 7
Beira, 3
Bilbao, 2
Bombay, 5 10
Bordeaux, 3
Boulogne, 12
Bremen, 8
B. Ayres, 3 12
Bushire, 1
Calcutta, 2 7
C. Town, 12
Channel Is., 10
Colombo, 1 11
Dominica, 4 5
Dunkirk, 15
Durban, 2 3
E. London, 3
Flushing, 6
Ghent, 1
Hamburg, 19
H. Kong, 1 1
Karachi, 2
Lisbon, 1
Marseilles, 14
Mauritius, 1
Montreal, 7
Napier, 8
Nelson, 3
Ostend, 3
P. Elizabeth, 3
P. Arenas, 17
Riga, 1
Rosario, 4
Rotterdam, 2 6
St. Helena, 1 1
St. Petersburg, 1
Shanghai, 1 3
Tientsin, 2
Wellington, 2 8
Canton, 1
Chinde, 2
Genoa, 1
Gibraltar, 10
Leghorn, 16
Madras, 1 5
Melbourne, 9 5
Penang, 2
Rangoon, 6
Singapore, 11

Soda Crystals—
Singapore, 1 t. 11 c. £6

Sodium Bicarbonate—
Algoa Bay, 1 t. £15

Sodium Bichromate—
Rouen, 5 t. 5 c. £160

Sodium Citrate—
Melbourne, 1 c. £5

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Sodium Cyanide—
Auckland, 10 t. £850
Sodium Hyposulphite—
H. Kong, 1 t. 5 c. £9
Sodium Nitrate—
Ochagalor, 38 t. £435
Sodium Sulphate—
Kotha, 275 t. £550
Toronto, 9 c. 25
Starch—
Ascension, 2 c.
Delagoa Bay, 7
Hobart, 1 t. 10
Wellington, 4 15
Piræus, 1
Napier, 1 5
P. Elizabeth, 2 10
Superphosphates—
Jersey, 99 t. £304
Lisbon, 49 11 c. 138
Kobe, 4 9 108
Sulphur—
C. Town, 6 t. 14 c. £73
Sulphuric Acid—
Melbourne, 4 t. 10 c. £28
Bombay, 4 10 24
Delagoa Bay, 1 16 18
Colombo, 1 10 16
Calcutta, 7 13
Tallow—
Bilbao, 9 t. 17 c.
Brussels, 27 4
Rotterdam, 5
Halifax, 2
Hamburg, 10 5
St. Petersburg, 11
Stockholm, 1
Tartaric Acid—
Durban, 1 c. £6
New York, 5 cs. 6 27
Singapore, 1 6
C. Town, 1 7
St. Petersburg, 1 5
Halifax, 6 25
Rangoon, 4 20
White Lead—
Adelaide, £84
Bombay, 324
Brisbane, 12
Calcutta, 773
Durban, 128
Sydney, 301
Wellington, 15
Auckland, 82
Melbourne, 814
Port Elizabeth, 27
Singapore, 82

LIVERPOOL.

Period ending October 2.

Alum—
Bombay, 1 t. £8
Sekondi, 3 kgs. 2
Melbourne, 1 5
Sydney, 1 5
Rosario, 1 19 c. 10
Tampico, 1 brl. 1
Smyrna, 3 3
Albumen—
Lisbon, 6 c. £24
Aluminium—
St. Catharina, 1 cs.
Aluminous Sulphate—
B. Ayres, 8 t. 14 c. £50
Vera Cruz, 1 7
Ammonia—
P. Arenas, 3 cs. £3
Ammonium Carbonate—
Constanti'ple, 10 c. £16
Vera Cruz, 1 t. 32
Havana, 9 17
Barcelona, 1 5 40
Genoa, 3 17 132
Lisbon, 8 13
Valparaiso, 3 99
Sydney, 1 15 60
Bordeaux, 10 16
Philadelphia, 1 7 44
Sydney, 12 20
Quebec, 1 5 44
Ammonia (Anhydrous)—
Rangoon, 8 cs. £13
Ammonium Muriate—
Gothenburg, 7 c. £8
Genoa, 4 t. 10 183
Barcelona, 4 98
Gothenburg, 1 7 32
Hamburg, 45 1,080
Piræus, 10 12
Ammonium Muriate—
Antwerp, 10 t. 3 c. £244
Amsterdam, 1 19 47
Bilbao, 1 1
Baltimore, 32 14 786
Valparaiso, 10 6 367
Ammonium Sulphate—
New York, 65 t. 6 c. £758
Valencia, 345 19 5,212
M. Video, 20 15 59
Teneriffe, 2 24
Santander, 19 11 244
Alicante, 30 2 448
Las Palmas, 15 178
Baltimore, 10 14 128
Demerara, 44 19 570
Tarragona, 20 1 250
Barium Sulphate—
Vera Cruz, 13 c. £3
Basic Slag—
Bilbao, 20 t. £30
Barcelona, 20 30
Corunna, 60 90
Gijon, 65 98
Villagarcia, 95 142
Lisbon, 190 8 c. 293
Bleaching Powder—
Boston, 151 cks.
C. Town, 20 dms.
Montreal, 50
New York, 152 40 cs.
Baltimore, 39
Madras, 8
Bombay, 13
Corfu, 40
N. Orleans, 20 bxs.
Rio de Janeiro, 7 brls. 27 dms.
Boiler Disincrustant—
Oporto, 1 cs.
Rangoon, 48 cks.
Bones—
Boston, 98 t. 16 c. £510
Rouen, 9 12 80
Las Palmas, 4 15
Borax—
Boston, 13 c. £79
Havana, 3 t. 18 61
Piræus, 1 1 19
Gd. Canary, 12 5 174
San Jose de G., 4 3
Cienfuegos, 2 31
Matanzas, 1 19 30
Colon, 15 12
Boracic Acid—
San Jose de G., 5 c. £7
Borax Crystals—
Malta, 10 c. £9
Calcium Chloride—
Rangoon, 27 t. £62
Algoa Bay, 1 3
Copenhagen, 1 19 c. 5
Sydney, 20 42
Bombay, 1 19 4
Calcium Sulphydrate—
Antwerp, 10 t. 4 c. £43
Camphor—
Guayaquil, 1 cs.
Caustic Potash—
Manaos, 2 t. £2
Caustic Soda—
Adelaide, 50 pks.
B. Ayres, 138 dms.
Bari, 100
Cadiz, 12
Catania, 60
Corral, 50
Fremantle, 26
Galatz, 136
Genoa, 10 bxs. 383
Gefle, 60
Kobe, 323
Maryborough, 20
Melbourne, 101
Mexico, 122
Montreal, 160
Naples, 6 cks. 83
N. Orleans, 30 brls. 15 bxs.
New York, 25 cs.
Newcastle, 25 80 tins
Oporto, 146 dms.
Penang, 10
Pisco, 200
Rotterdam, 13 16
Rouen, 82
Seville, 6
Singapore, 35
Sourabaya, 7
Sydney, 109
Valencia, 88
Venice, 35
Vera Cruz, 239
Wellington, 54
Caustic Soda—
Antwerp, 94 dms.
Alexandria, 145
Bahia, 380
Barcelona, 100 cks. 212
Batavia, 172
Bombay, 45
Calcutta, 8
Christiania, 20
E. London, 86 cs. 57
Honduras, 30
H. Kong, 21
Karachi, 140
Lyttelton, 9
M. Video, 30
Palermo, 20
Quebec, 155
Rio de Jan., 200
San Sebastian, 230
Shanghai, 51
Chemicals (*otherwise undescribed*)
Hiogo, 10 cks. £100
Bombay, 3 13 dms. 17
B. Ayres, 300 826
Talcahuano, 40 109
Rio de Jan., 3 9
Calcutta 80 51
Pasages, 26 36
Bolivia, 1 pk. 2
Villagarcia, 1 2
Padang, 10 24
Sourabaya, 3 7
Samarang, 10 24
Genoa, 2 20 brls. 95
Montreal, 102 25 591
Hamburg, 4 40
New York, 10 36
Bilbao, 24 32 kgs. 120
Black River, 5 9
Malaga, 5 68
Natal, 241½ trcs. 139
Boston, 1 cs. 3
Sydney, 100 10 174
China Clay—
Bahia, 25 bgs.
Baltimore, 249 t.
Bombay, 40 cks.
Montreal, 1,230
Calcutta, 768
Genoa, 100
Madras, 120
Newport N., 739
New York, 75
Rio de Jan., 15
Coal Products—
Aniline Colours
Boston, 11 cks. 2 kgs.
Karachi, 3
Aniline Salt
Bombay, 4 pns.
Carbocil—
Rotterdam, 2 t. £9
Carbolic Acid
New York, 1 t. £31
Carbolic Acid (Liquid)
Halifax, a qty.
Carbolic Acid (Solid)
Halifax, a qty.
Yokohama, 5 t. £262
Bombay, 14 c. 18
Naphtha
Auckland, 20 dms.
Pitch
Genoa, 109 brls.
Valparaiso, 25
Tar
Auckland, 6 brls.
Batavia, 75 cks.
Manaos, 50 dms.
Philadelphia, 500
Tar Oil
Singapore, 50 brls.
Colours—
Melbourne, 6 t. 18 c.
Montreal, 11 pks.
Copper Sulphate—
Bombay, 3 t. £74
Nantes, 10 1 c. 233
Rangoon, 2 10 51
Bordeaux, 15 388
Villagarcia, 3 1 76
Santander, 5 18 140
Bilbao, 8 15 296
Galata, 4 3 97
Salonica, 19 24
Riga, 6 12 171
St. Petersburg, 4 19 130
Christiania, 2 32
Tampico, 15 390
Vera Cruz, 5 130
Ghent, 10 242
Calcutta, 5 135
Sydney, 5 128
Volo, 2 48
Odessa, 15 18
Stettin, 12 2 298
Copper Sulphate—
Amsterdam, 3 t. 1 c. £80
Melbourne, 13 333
Guayaquil, 10 11
Hamburg, 1 23
Karachi, 2 10 58
Barcelona, 20 3 632
Danzig, 3 90
Konigsberg, 1 10 43
Copperas—
Teneriffe, 4 t. £11
Sydney, 1 6 c. 8
Cottonseed Oil—
Bassam, 10 brls.
Bathurst, 5
Dakar, 75
Rufiscue, 30
Cream of Tartar—
E. London, 1 c. £5
Disinfectants—
Natal, 80 dms. 1 cs. £32
Egwanga, 2 crts. 2
Abonnema, 2 2
Sydney, 10 brls. 45
Rotterdam, 67 bgs. 65
Cape Town, 1 t. 9 c. 3 pks. 29
Madras, 50 kgs. 3 20
Singapore, 49 dms. 25
Calabar, 2 1 5
Rio de Jan., 9 18
E. London, 3 6
Lyttelton, 2 5
Calcutta, 1 ck. 10 7
Saltpond, 3 3
Opobo, 2 4
Dried Blood—
Las Palmas, 3 t. 19 c. £39
Teneriffe, 10 5
Yokohama, 20 215
Philadelphia, 6 50
Dyestuffs (*otherwise undescribed*)—
Boston, 8 cks.
Dyestuffs—
Bark Extract
Philadelphia, 2 cs.
Logwood Extract
Melbourne, 5 cks.
Montreal, 4
Tannin Extract
Constanti'ple, 25 cks.
Farina—
Cebu, 11 brls.
Fertiliser—
New York, 192 t. 15 c. £686
Fish Guano—
Hamburg, 5 t. £31
Glue—
Havre, 6 cs.
Callao, 10 bgs.
Madras, 20 20
Bombay, 25
Lisbon, 20
Glycerine—
C. Town, 1 c. £3
San Jose de J., 2 7
Gothenburg, 20 t. 1 852
P. Elizabeth, 1 2
Montreal, 19 9 808
Alexandria, 10 27
Umballa, 1 cs. 1
New York, 60 6 2,261
Yokohama, 7 8 312
Glue Stock—
Boston, 342 bgs.
Iron Oxide—
Callao, 190 cks.
New York, 7
Philadelphia, 10
Trieste, 17
Durban, 100 kgs.
Iron Sulphate—
Rouen, 20 kgs.
Lactic Acid—
Madras, 1 t. £25
Lead Acetate—
Rio de Jan., 5 t. £146
Lead Nitrate—
New York, 40 cks.
Linseed Oil—
Colombo, 12 brls.
Coquimbo, 6 100 dms.
Genoa, 21
Havana, 10
Messina, 5
M. Video, 14
Patras, 5
St. Johns, 7
Syra, 5
Valparaiso, 600
Vancouver, 30
Venice, 3

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Linseed Oil—
Alexandria, 182 brls.
Bahia, 15 50 dms.
Bari, 8
Beyrout, 20
B. Ayres, 283
Demerara, 26
Kingston, 5 200
La Guayra, 5
Las Palmas, 3
Manaos, 5 190
Para, 6
Pernambuco, 10 4 pks.
Piræus, 12
S. Thomas, 4
Salaverry, 50
Santiago, 3 20
Trinidad, 4
Tuticorin, 6
Valparaiso, 100

Litharge—
Melbourne, 20 kgs.

Magnesium Chloride—
B. Ayres, 2 t. 1 c. £6
Penang, 11 2
Sydney, 12 2

Magnesium (Calcined)—
Santander, 1 c. £61
Sekondi, 6 18
Madras, 8 9

Magnesium Carbonate—
Marseilles, 3 t. 14 c. £69
Tarragona, 19 18
Havre, 2 4 41

Manganese Ore—
Penang, 3 cks.

Manure—
Colombo, 5 t. £30
Marseilles, 5 15 c. 92
Antwerp, 9 9 75

Oleine—
Boston, 120 brls.

Olive Oil—
Santos, 12 brls.
Talcahuano, 34 cks.
Victoria, 10 cs.
Vancouver, 28

Oxalic Acid—
Rio de Jan., 1 t. £40
Sydney, 1 2 c. 35

Paraffin Wax—
Pernambuco, 4 cs.
Valparaiso, 150 bgs.

Phosphate—
Moji, 50 t. £75

Phosphorus (Amorphous)—
H. Kong, 9 c. £90

Potassium Bicarbonate—
Yokohama, 5 t. £164

Potassium Bichromate—
Tantah, 2 t. £62
Bombay, 1 13 c. 52
Guayaquil, 5 8
Barcelona, 13 10 413

Potassium Chlorate—
Kobe, 12 t. 10 c. £375
Stettin, 5 121
Libau, 2 9 72
Bari, 4 9 135
Ancona, 4 7 165
Venice, 19 30
Cevita Vecchia, 10 14
Genoa, 3 8 104
Hamburg, 8 202
Gothenburg, 4 18 147
Rio de Jan., 11 16 354
Hong Kong, 1 10 46
S. Petersburg, 20 600
Stettin, 10 282
Manaos, 2 4

Potassium Cyanide—
N. Orleans, 22 t. £2,100

Potassium Prussiate—
V. Cruz, 1 t. 8 c. £85

Red Lead—
Hamburg, 100 kgs.
Manila, 20

Rubber—
San Sebastian, 6 brls.

Salammoniac—
Copenhagen, 5 c. £10
Con'nople, 3 t. 19 154
Marseilles, 19 38
Naples, 2 76
Prevesa, 1 2
Natal, 5 10
Malta, 1 kg. 1
Venice, 1 1 40
Odessa, 5 9 165

Salammoniac—
Ancona, 19 c. £39
Sydney, 1 t. 15 58
Baltimore, 6 3 246
Tientsin, 1 2
Bombay, 2 8 96

Salt—
Antwerp, 200 cs.
Bombay, 50
Bonny, 12 t.
Boston, 120
B. Ayres, 262 10 c. 70 cs.
Cocobeach, 4 7
Conakry, 50
Durban, 25
Degama, 50
Ghent, 50
Hamburg, 10
Kingston, 50 200
Lagos, 256 1
Manaos, 7 4
Montreal, 624 1 3
Newcastle, 102
N. Orleans, 250
New York, 30
Opobo, 25
Para, 100
Portland, 175
P. Novo, 18 15
P. Barrios, 100
Rangoon, 100
Rosario, 5 7 250
Rouen, 15
St. John, 800
S. Fernando, 13 8
Vancouver, 500
Warri, 19
Tientsin, 50
Barbadoes, 33 6
Bilbao, 25
C. Town, 53 11
Ghent, 902 bgs.
Grand Lahou, 500
Matanzas, 250
Melbourne, 31 10
Newcastle, 346
Rio de Jan., 6 14
Sekondi, 8 19
Fernando Po, 1,030
Svendborg, 400
Trinidad, 35 19

Saltcake—
Piræus, 16 t. 18 c. £68
Santander, 50 6 50

Saltpetre—
Manaos, 4 c. £6

Sheep Dip—
B. Ayres, 8 t. 18 c. £290
S. Cruz, 17 17 500
E. London, 13 10 405
Santa Cruz, 200cs. 400
Gallegos, 200 400
Lyttelton, 4 9 70
Algoa Bay, 4 9 35
Concepcion, 5 dms. 6

Soap—
Accra, 50 bxs.
Bangkok, 200
Axim, 150 pks.
Bassam, 290 12 bdls.
Bombay, 915 53 cs.
Alexandria, 84 20 brls.
Bourgas, 51
Brass, 672
Cape Town, 75 178
Colombo, 50
Delagoa B., 746 15
Demerara, 1,000 20
Dunedin, 10
Dunkirk, 1,500
Fuca, 40
Gibralter, 65
H. Kong, 25 250 5
Kingston, 5,049 5 bdls.
Kobe, 50 cs.
Lagos, 1,995
Lahou, 200
Malta, 8
Manila, 6
Maranham, 1
Martinique, 180 bdls.
Melbourne, 4
Mombasa, 20
Palma, 20
P. Louis, 2,500
Para, 1 1,013
Penang, 2,000
P. Elizabeth, 407 247
Rangoon, 1,281 60
Rosario, 281
Rotterdam, 1,040
Salonica, 97
Sandakan, 100
Shanghai, 8,406 5 brls
Singapore, 110 25

Soap—
Soerabaya, 130 cs.
Ternate, 100 bxs.
Trinidad, 1,058
Warri, 1,500
Ecuador, 150
M. Video, 21 5 crts.
Saltpond, 550
S. Leone, 2
Amboina, 100
Auckland, 3
Barbadoes, 51
Batavia, 15
Benin, 200
Cadiz, 20
Calabar, 737
Colon, 1
Conakry, 100
Constantinople, 147
Calcutta, 394
Durban, 60
E. London, 157 16
Gibralter, 125 4
Gothenburg, 200
Honduras, 60 dms.
Las Palmas, 110
Malta, 41 95
Nassau, 10
New York, 59
Oporto, 1
Sekondi, 40
Valparaiso, 22 100
Victoria, 3
Cape Town, 25
Auckland, 40 sks.
E. London, 10
Rotterdam, 100 bgs.

Soda—
Boston, 30 cks.
P. Louis, 25 bxs.
San Pedro, 100

Soda Ash—
Christiania, 200 bxs.
Constantinople, 100
Demerara, 8 cks.
Dunedin, 28
Gefle, 450
Hiogo, 1,000
Karachi, 250
Leghorn, 100
Madras, 28
Montreal, 30 180
Quebec, 1,392
Rotterdam, 776
San Sebastian, 300
Valparaiso, 296
Victoria, 80
Wellington, 14
Yokohama, 750
Bombay, 24 175
Calcutta, 4 800
Gothenburg, 50
Havana, 8 4 brls.
Oporto, 34
Piræus, 15
Rio de Jan., 60
Salonica, 48
Tampico, 18
B. Ayres, 348
Addah, 4
Brazil, 120

Soda Crystals—
Bombay, 50 kgs.
B. Ayres, 200 300 dms.
A'fagasta, 150 50 a qnty.
C. Town, 65
Demerara, 10
Montreal, 10 30 bxs.
Valparaiso, 900
Singapore, 4 cks.

Sodium Arseniate—
Lisbon, 2 cks.

Sodium Bicarbonate—
Bangkok, 34 kgs.
Yokohama, 592 bgs.
Addah, 100
Bombay, 20 1,115
Brazil, 20
B. Ayres, 12 cks. 464
Calcutta, 250
C. Town, 20
Colombo, 20
Corunna, 6 76
Dunedin, 127
Karachi, 200 700
Lisbon, 6
Quebec, 10 585
M. Video, 67
Melbourne, 650 dms. 30
Rangoon, 20 70
Sydney, 267
Trinidad, 80
Wellington, 110
Genoa, 2 cks. 365
H. Kong, 50
Malta, 10

Sodium Bichromate—
Rouen, 14 cks.
Calcutta, 6 250 kgs.
Oporto, 3

Sodium Prussiate—
St. Petersburg, 6 cks.

Sodium Silicate—
Adelaide, 108 pks.
Barcelona, 48 brls.
Fremantle, 3 cks.
Lisbon, 100
Maryborough, 10
Piræus, 33
Santos, 22
B. Ayres, 98
Alexandria, 80
Bilbao, 300 bgs.
Boston, 50
Calcutta, 28 pks.
Genoa, 102
Hiogo, 30 cks.
Odessa, 114
Patras, 65
Valencia, 112

Sodium Sulphide—
Boston, 6 dms.
B. Ayres, 47 cks.
Bombay, 1 t. £8

Stearine—
Genoa, 10 cs.

Sulphur—
Gothenburg, 60 t. £272
P. Arenas, 8 15 c. 85
Madeira, 1 ck. 1
Montreal, 140 t. 2 681
Pernambuco, 5 2
Algoa Bay, 4 9 30
C. Town, 4 9 50

Starch—
Rio de Janeiro, 30 bgs. 20 cks.
Santos, 16 bls.

Sulphuric Acid—
C. Coast, 3 c. £2
Delagoa Bay, 1 t. 16 18
Maceio, 2 2
B. Ayres, 3 cs. 6
Rangoon, 1 1

Superphosphates
Teneriffe, 50 t. 1 c. £147
Lisbon, 594 1,706
Malaga, 198 1 617
Valencia, 257 8 689
Las Palmas, 16 18 59
B. Ayres, 19 16 63
Seville, 195 3 512
Alicante, 99 309
Pasages, 297 927
Santander, 198 588

Tallow—
Hamburg, 5 brls.
Alexandria, 39 trcs.
Bombay, 120
Calcutta, 10
Christiania, 8 t. 3 c.
Gothenburg, 11 cks.

Tartaric Acid—
E. London, 2 c. £10
Victoria, 2 10

Tin Chloride—
Lisbon, 1 ck.

Tin Oxide—
Halifax, 10 cks.

Turpentine—
Constanti'ple, 16 brls.

White Lead—
Burutu, 12 kgs.
Lisbon, 7 t. 8 c.
Lyttelton, 690 kgs.
Rio Grande, 10 brls.
H. Kong, 70

Zinc Chloride—
Sydney, 1 t. £11
Oporto, 2 8 c. 40
Bombay, 14 9

Zinc Muriate—
Bahia, 10 t. 15 c. £140
Lisbon, 5 4
Bombay, 12 19 169

MANCHESTER.

Week ending October 2.

Caustic Soda—
Monastir, 10 dms.
Beyrout, 60

Chemicals (*otherwise undescribed*)
Beyrout, 40 brls.
Tripoli B., 10

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Chemicals (*otherwise undescribed*)
Montreal, 15 kgs. 260½ trcs. 101 brls.

Coal Products—
Aniline Dye
Wellington, 1 cs.
Aniline Oil
Ghent, 4 brls.
Aniline Salt
Alexandria, 4 brls.
Benzol
Basle, 12 dms.
Carbolic Acid
Philadelphia, 50 cks.
Naphthylamine
Antwerp, 32 cks.

Dyestuffs (*otherwise undescribed*)—
Boston, 10 cks.

Farina—
Boston, 25 cks.

Flux Skimmings—
Antwerp, 28 cks.

Linseed Oil—
Beyrout, 23 brls.
Famagusta, 2

Potassium Bichromate—
Hamburg, 4 cks.

Soap Lyes—
N. Jersey, 25 dms.

Soda Crystals—
Malta, 8 brls.

Sodium Bichromate—
Antwerp, 5 cks.
Genoa, 20

Sodium Prussiate—
Boston, 40 cks.

Sodium Silicate—
Monastir, 4 brls.

Sodium Sulphate (Glauber's Salts)—
Gothenburg, 50 bgs.

Stearine—
Genoa, 5 brls.

Sulphuric Acid—
B. Ayres, 2 cs.

Tallow—
Bombay, 15 brls.

HULL.

Week ending September 28.

Antimony—
New York, 100 cks.

Chemicals (*otherwise undescribed*)
Amsterdam, 125 cks.
Abo, 1 cs.
Antwerp, 2, 5 trcs.
Bremen, 2
Bombay, 427
Bergen, 8, 1
Christiania, 300 bgs., 36 pks.
Copenhagen, 3
Drontheim, 20 cks.
Danzig, 46, 1, 3 kgs.
Helsingfors, 2 pks.
Karachi, 997
New York, 115, 25
Odessa, 315
Riga, 75
Reval, 33
Raumo, 56
Rotterdam, 37
Stettin, 10
St. Petersburg, 24 dms.
Wasa, 5

Coal Products—
Pitch
Antwerp, 23 cks.
Dunkirk, 200 t.
Gothenburg, 16 cks.
New York, 78
Tar
Amsterdam, 4 cks.
Christiania, 20
Hamburg, 36
Rotterdam, 5
Uleaborg, 20
Wasa, 50

Cottonseed Oil—
Amsterdam, 10 c.
Drontheim, 17
Hamburg, 30 t. 4
Harlingen, 5
Rotterdam, 5, 11
Stettin, 4, 7

Glue—
Dunkirk, 4 bgs.
New York, 145 cks.

Linseed Oil—
Bombay, 15 t. 13 c.
Constanti'ple, 2, 16
Christiansund, 1, 15
Copenhagen, 1, 8
Drontheim, 11
Dunkirk, 6, 9
Hamburg, 3, 13

Manure—
Dunkirk, 200 t.
Ghent, 38 bdls.
Hamburg, 1,334 bgs.
Rouen, 300

Phosphate—
Copenhagen, 50 t.
Gothenburg, 150
Wasa, 180

Soap—
Bombay, 53 brls. 25 kgs.

Tallow—
Copenhagen, 12 cks.
Rotterdam, 1 bg.
Wasa, 59

Turpentine—
Amsterdam, 12 cks.
Antwerp, 28
Bombay, 60 dms.
Copenhagen, 5
Gothenburg, 10
Hamburg, 15
Rotterdam, 11

GLASGOW.

Week ending October 3.

Ammonium Carbonate—
Sweden, 1 t. 11 c. 1 q.

Ammonium Muriate—
Genoa, 5 t. 13 c. 1 q.

Ammonium Sulphate—
Amsterdam, 50 t. 12 c. 2 q.
Kobe, 302, 12, 2
Yokohama, 16, 1

Asbestos—
Christiania, 3 q. 19 lb.

Boracic Acid—
Rotterdam, 1 t. 4 c.

Borax—
Helsingfors, 20 t. 7 c. 3 q. 26 lb.

Chemicals (*otherwise undescribed*)
Chemulpo, £37
Kobe, 75
Singapore, 38
Genoa, 101

Coal Products
Creosote
Marseilles, 44 t. 10 c.
Creosote Oil
Helsingfors, 341 t. 10 c.
Hamburg, 4, 4
Pitch
Amsterdam, 390 t. 2 c.
Bombay, a qty.
Dieppe, ,,
Hamburg, ,,
Canada, ,,
Calcutta, ,,
Rangoon, ,,
Tar
Karachi, £82
Bombay, a qty.
Dieppe, ,,
Hamburg, ,,
Canada, ,,
Calcutta, ,,
Rangoon, ,,
Tar Oil
Hamburg, 15 t. 3 q.
Christiania, 4, 15 c. 1

Dextrine—
Genoa, £30

Dyestuffs
Extracts (*otherwise undescribed*)
Genoa, £130

Farina—
Leghorn, 4 t. 18 c. 2 q.

Ferro Silicon—
Canada, 5 t.
Hamburg, 15

Fish Oil—
Leghorn, £320
Amsterdam, 1 t. 9 c. 3 q.
Rotterdam, 5, 2
Belgium, 960
Hamburg, 20, 15, 5 lb.
Hamburg, 33, 9, 2 q.

Linseed Oil—
Karachi, 1 t. 8 c.
Rangoon, 12, 9, 1 q.

Magnesia—
Paris, 13 c.

Mineral White—
Drontheim, 1 t.

Oxalic Acid—
Belgium, £94
U.S.A., 5 t. 5 c. 3 q.

Paraffin (Solid)—
Leghorn, 7 t. 7 c. 2 q.
Hamburg, 19

Paraffin Wax—
Genoa, 18 c.
Paris, 1 t.
Rouen, 1
Talcahuano, 5, 2
Hamburg, 1, 15
Genoa, 24, 1
Madras, 8, 7, 2 q.
Palermo, 19, 3
Rouen, 1
Helsingfors, 20, 7, 3, 26 lb.
Rotterdam, 6

Potassium Bichromate—
Rotterdam, 1 t. 14 c.
Canada, 5, 2, 3 q.
Genoa, 2, 7, 1
Paris, 5, 3, 3
Drontheim, 1, 3, 2
Helsingfors, 2, 16
Rotterdam, 1, 14

Potassium Cyanide—
Delagoa Bay, £919
Fremantle, 830
Kobe, 466
Singapore, 548

Potassium Muriate—
Bombay, 2 t.

Red Lead—
Karachi, 2 t. 10 c.
Bombay, 1, 1, 1 q.
Rangoon, 6, 7, 2
Drontheim, 1, 10

Sheep Dip—
P. Arenas, £80

Soap—
Durban, 2 t. 10 c.
Bangkok, 10
China, 3, 2, 3 q.
Rangoon, 1, 18, 3

Sodium Bichromate—
Leghorn, 1 t. 18 c.

Sodium Cyanide—
Delagoa Bay, £903
Fremantle, 2,619

Sodium Iodine—
Hamburg, 1 t.

Starch—
Drontheim, 25 t.

Wax—
Leghorn, 6 c. 3 q.

White Lead—
Delagoa Bay, 14 c.
Natal, 4 t. 10
H. Kong, 5
Rangoon, 3, 10, 3 q.

TYNE.

Week ending September 27.

Antimony (Regulus)—
Hamburg, 26 t. 14 lb.
Rotterdam, 10, 13 c. 3 q.

Barium Carbonate—
Hamburg, 178 t. 7 c. 2 q.

Barium Binoxide—
Dunkirk, 16 t. 3 c. 21 lb.
Hamburg, 33, 2, 26
Antwerp, 10, 27

Bleaching Powder—
Helsingfors, 162 t. 17 c. 1 q. 7 lb.
Bergen, a qty.
Stavanger, ,,
Copenhagen, 24 t. 15, 2, 8
Rotterdam, 9, 11, 2, 1
Gothenburg, 19, 19, 2, 10

Caustic Soda—
Helsingfors, 135 t. 7 c. 1 q. 18 lb.
Antwerp, 4, 18, 2, 18
Copenhagen, 13, 1, 18
Odense, 1, 3, 24
Seville, 100, 8, 3, 20
Genoa, 9, 17, 3, 26
Gothenburg, 4, 18, 2, 18

Coal Products—
Carbolic Acid (Solid)
Odense, 14 c. 2 q. 26 lb.

Infusorial Earth—
Copenhagen, 1 t.

Litharge—
Gothenburg, 1 t. 9 c. 1 q. 20 lb.

Magnesia—
Barcelona, 4 t. 18 c. 2 q. 2 lb.

Manure—
Oporto, 197 t. 10 c.
Leghorn, 20, 14, 1 q.

Red Lead—
Helsingfors, 1 t. 1 c. 3 q. 15 lb.
Hamburg, 1, 1, 2, 21
Copenhagen, 2, 16, 3, 14
Gothenburg, 7, 17, 3, 20

Salt—
Copenhagen, 15 c. 1 q. 24 lb.

Soap—
Bergen, a qty.
Stavanger, ,,

Soap Powder—
Bergen, a qty.
Stavanger, ,,

Soda—
Bergen, a qty.
Stavanger, ,,

Soda Crystals—
Rotterdam, 19 t. 2 c.

Sodium Hyposulphite—
Seville, 19 t. 2 c. 16 lb.

Sodium Sulphate—
Antwerp, 50 t.

Sodium Sulphide—
Genoa, 15 t. 3 q. 26 lb.

Sulphur—
Gothenburg, 70 t.

Tallow—
Helsingfors, 6 t. 11 c.
Rotterdam, 3, 1, 2 q. 25 lb.

White Lead—
Copenhagen, 4 t. 2 c. 1 q. 6 lb.
Rotterdam, 5, 2
Naples, 2, 5, 1, 7

GOOLE.

Week ending September 28.

Ammonium Sulphate—
Hamburg, 40 t.

Chemicals (*otherwise undescribed*)
Antwerp, 30 cks.
Hamburg, 48
Rotterdam, 63, 20 cs.

Coal Products (*otherwise undes.*)—
Amsterdam, 113 cks.
Antwerp, 2
Boulogne, 95
Delfyzl, 343
Hamburg, 25 dms.
Rotterdam, 86, 8

Coal Products—
Benzol
Boulogne, 46 cks. 48 dms.

Colours—
Amsterdam, 100 bgs.
Antwerp, 4 pks. 15 dms.
Boulogne, 32 cs. 40
Dunkirk, 1 ck.
Ghent, 4

Dyestuffs (*otherwise undescribed*)—
Rotterdam, 17 cks.

Manure—
Boulogne, 50 bgs.
Hamburg, 400

Soap—
Ghent, 3 cs.

GRIMSBY.

Week ending September 25.

Basic Slag—
Gsbjerg, 520 bgs.

Chalk—
Hamburg, 10 brls.

Chemicals (*otherwise undescribed*)
Hamburg, 32 cks. 5 kgs.

Coal Products (*otherwise undes.*)—
Dieppe, 80 brls.
Rotterdam, 7

Colours—
Dieppe, 11 cks.
Hamburg, 2 cans

Manure—
Hamburg, 134 bgs.

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PRICES CURRENT.

FRIDAY, October 11, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
,, Glacial	,,		40/-	
Arsenic S.G. 2,000°	,,		32/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10⅛
Picric	,,	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
,, (Pyrites, 168°)	,,	3	2	6
,, (,, 150°)	,,		30/-	
,, (free from arsenic, 145°)	,,		36/-	
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11⅛
Acetone	per ton	82	10	0
Arsenic, white powdered	nett	31	0	0
Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
,, .880	per ton	24	0	0
,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3⅝
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	15	0
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	15	0
Aniline Oil (pure)	per lb.	0	0	5⅜
Aniline Salt ,,	,,	0	0	4⅞
Antimony	per ton	45	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9⅛
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/	to	65/-
Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	9
,, 50/90	,,	0	0	8¾
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅝
,, (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	,,	0	0	2¾
,, (filtered for Lucigen light)	,,	0	0	3½
Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	,,	1	5	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	62	10	0
,, Sulphate	,,	22	15	0
,, Oxide (copper scales)	,,	53	10	0
Glycerine (crude), 80%	,,	31	10	0
,, (distilled S.G. 1260°)	,,	54	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	22	10	0
,, Litharge Flake (ex ship)	,,	24	0	0
,, Acetate (white) ,,	,,	32	0	0
,, ,, (brown) ,,	,,	26	10	0
,, Carbonate (white lead), pure	,,	25	10	0
,, Nitrate	,,	34	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	,,	0	2	4
,, ,, Miscible, 60° O.P.	,,	0	1	10
Oils :—				
Cottonseed	per ton	28	0	0
Linseed	,,	25	5	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3¼
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash) 90%	per ton	26	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	5 7/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals)	,, ,,	3	0	0
,, Acetate (ex ship)	,,	17	5	0
,, Arseniate, 45%	,,	24	0	0
,, Borate (Borax), Crystals	,,	16	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
,, ,, (74% C. Soda) ,,	,, ,,	10	15	0
,, ,, (70% C. Soda) ,,	,, ,,	10	5	0
,, ,, (60% C. Soda) ,,	,, ,,	9	5	0
,, ,, (pure liq. 90° Tw.) ,,	,, ,,	4	15	0
,, 77/78% powdered (99% hydrate)	per ton	12	10	0
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3⅝
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6
,, ,, (Glauber's Salts)	,,	1	15	0
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	33	10	0
Tin Crystals	per lb.	0	0	10¾
,, English Ingots	per ton	151	0	0
Zinc (Spelter)	,,	21	5	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0
,, Sulphate, Crystal	,,	7	10	0

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THE

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AND

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CURRENT TOPICS.

THE SEPTEMBER TRADE RETURNS.

THE Board of Trade returns for September show only a small increase in total imports, but a considerable rise (over four and a half millions) in the value of total exports during the month. The total figures for the nine months of the year show increases of thirty-two millions and forty-one millions respectively, while a comparison with 1905 gives the remarkable figures of sixty-four and three-quarter millions increase in imports, and of nearly seventy-seven millions in exports during the nine months.

The figures for September are:—Total imports (value c.i.f.) £45,341,276., against £45,059,835., an increase of £281,441. Total exports of British and Irish produce (value f.o.b.), £35,156,320., against £30,525,153., an increase of £4,631,167. The comparison with 1905 shows a decrease of £385,453. in imports, and an increase of £5,805,860. in exports.

The imports of chemicals, drugs, dyes, and colours in September amounted to £875,990., against £709,591. in 1906, an increase of £166,399. The imports of bleaching materials were valued at £2,201., against £3,541., and of soda compounds £7,960., against £8,073. in 1906.

The exports of chemicals, drugs, dyes, and colours in September amounted to £1,227,425., against £1,186,968. in 1906, an increase of £40,457. During the month the principal items were:—Bleaching materials, 92,157 cwts., valued at £19,331., against 87,376 cwts. and £18,842. in 1906. Coal products (not dyes), value £79,305., against £95,458. in 1906. Copper sulphate, 763 tons, valued at £21,228., against 473 tons and £11,272. in 1906. Dyestuffs, £28,798., against £23,966. in 1906. Glycerine, £29,005., against £23,625. in 1906. Chemical manure, 70,414 tons, valued at £343,607., against 61,176 tons and £317,896. Muriate of ammonia, 10,075 cwts., valued at £13,523., against 10,948 cwts. and £14,478. in 1906. Painters' colours and materials, 151,677 cwts., valued at £193,998., against 159,120 cwts. and £197,353. in 1906. Soda compounds, 406,692 cwts., valued at £141,760., against 484,142 cwts. and £129,811. in 1906. The exports of salt in September amounted to 52,426 tons, valued at £41,631., against 48,188 tons and £37,411. in 1906. Exports of "unenumerated chemicals" were valued at £223,965., compared with £218,968. in 1906.

The imports of oil seeds, nuts, oils, fats, and gums in September amounted in value to £2,317,500., against £2,079,815. in 1906, an increase of £237,685. The figures for petroleum were 24,847,745 gallons, valued at £478,394., against 21,436,909 gallons and £442,100. in 1906. The value of exports of oil seeds, nuts, oils, fats, and gums was £295,895., against £253,622., an increase of £42,273.

The imports of metals and minerals during September were:—Copper ore, 7,253 tons, valued at £113,324., against

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9,015 tons and £101,901. in 1906. Copper (regulus and precipitate), 6,395 tons, valued at £278,299., against 5,753 tons and £256,157. in 1906. Lead (pig and sheet), 13,678 tons, valued at £269,914., against 16,998 tons and £293,290. in 1906. Pyrites of iron and copper, 55,367 tons, valued at £92,462., against 54,531 tons and £88,943. in 1906. Quicksilver, 16,000 lbs., valued at £1,452., against 25,500 lbs., valued at £2,370. in 1906. Silver ore, value £120,718., against £248,837. in 1906. Tin, 3,429 tons, valued at £570,901., against 3,505 tons and £557,053. Zinc (crude), 6,633 tons, valued at £147,696., against 7,090 tons and £181,905.

LIMITED PARTNERSHIPS.

On another page of this issue will be found the full text of the Limited Partnerships Act, 1907, which comes into operation on January 1st of next year. The Act, which is regarded with considerable interest in commercial circles, provides that a limited partnership—in the case of bankers of not more than ten, and in any other case of not more than twenty—may be formed that shall consist of one or more persons who shall be liable for all debts and obligations of the firm, and one or more persons who shall contribute a sum of money as capital or property valued at a stated amount, and who shall only be liable for that amount. The first of these are to be known as general partners, and the second as limited partners. All limited partnerships must be registered as such, otherwise they will be considered as general partnerships.

A limited partner must not draw out or receive back any part of his contribution, or he will be liable for the debts of the firm up to the amount he draws out. No limited partner may take part in the management of the partnership business, though he may inspect the books of the firm and advise with the partners as to its state and prospects. Should he take part in the management of the business, he will be liable for all debts and obligations of the firm. Further provisions are that, in the event of death, lunacy, or bankruptcy, the partnership shall not be dissolved; also that applications to wind up shall be by petition under the Companies Act.

Registration of a limited partnership shall be effected by filing with the Registrar of Joint Stock Companies a statement, signed by the partners, and containing the following information:—(*a*) The firm's name; (*b*) the general nature of the business; (*c*) the principal place of business; (*d*) the full name of each of the partners; (*e*) the term, if any, for which the partnership is entered into, and the date of its commencement; (*f*) a statement that the partnership is limited and the description of every limited partner as such; (*g*) the sum contributed by each limited partner, and whether paid in cash or how otherwise. If during the continuance of a limited partnership any change, is made or occurs in any of these particulars a statement, signed by the firm, specifying the nature of the change must within seven days be sent to the Registrar, and a penalty not exceeding £1. per day is provided against each general partner in default. Provision is also made for the gazetting of any arrangement or transaction affecting the status of a general or limited partner of the firm or the assignment of the share of any limited partner, and for the payment of an *ad valorem* duty of 5s. per cent. on the amount of all capital contributed by a limited partner.

The Partnership Act of 1890 provides that the receipt by a person of a share of the profits of a business is *prima facie* evidence that he is a partner in the business, but the receipt of such share or of a payment contingent on or varying with the profits of a business does not of itself make him a partner in the business; and in particular . . (*d*) the advance of money by way of loan to a person engaged or about to engage in any business on a contract with that person that the lender shall receive a rate of interest varying with the profits or shall receive a share of the profits arising from carrying on the business does not of itself make the lender a partner with the person or persons carrying on the business or liable as such. Provided that the contract is in writing and signed by or on behalf of all parties thereto. The same Act provides that in the event of the person to whom any such loan is made becoming bankrupt or insolvent the lender shall be postponed for payment until the other creditors have been satisfied.

A legal correspondent of the *Manchester Guardian* observes that the only advantages of this new Act appear to be that a limited partner can inspect the books of the firm, examine into the state and prospects of the business, and advise with the partners therein. Should he do anything which a money lender, as a postponed creditor under the Partnership Act, could not do, he incurs the liability of a general partner in the one case just as much as in the other. It seems scarcely probable, therefore, that the new Act, with its elaborate registration arrangements, will be resorted to in preference to the provisions of the Partnership Act respecting loans by postponed creditors.

FALSE MARKS OF ORIGIN.

The question has been mooted recently as to whether there exist any legal remedies to put an end to the practice of falsely marking goods of foreign origin, and the British Chamber of Commerce in Paris is now moving energetically in the matter. On account of the manufacturer being abroad, the difficulty (in the case of French goods, for instance) of tracking the culprit is often very great. If the offender himself is a French manufacturer the task is much easier, and a recent decision demonstrates this very clearly.

A French "société anonyme," manufacturing wood rims for bicycle wheels, learnt recently that a firm, trading as E. G. and Co., were placing upon their rims a mark exactly resembling their own, but with this difference, that the names on the Company's marks were the names of real persons and places, while E. G. and Co.'s were purely fancy names coupled with imaginary companies. The French Company brought an action against E. G. and Co. on the grounds that the use of a purely imaginary American company's name was to suggest to the public that the goods came from the United States, and to induce them to purchase such goods in preference to those of French make. The Company's claims were rejected by the lower court on the ground that the practice of using fancy trade marks was a kind of commercial "snobbishness," and could not be regarded as an act of unlawful competition. The Company then appealed to the court of Grenoble, and this court reversed the decision by deciding that the Company had a *locus standi* for objecting to any acts on the part of a competing house by which it should attempt to induce the public into an erroneous belief as to its goods. Consequently the court forbade E. G. and Co. the use of the expressions "Wood Rim Co., Ltd.," and "American Continental Co.," but permitted them to retain the fancy words.

In the opinion of the British Chamber of Commerce in Paris the judgment is important, as it establishes the following points:—(1.) The indication of a false mark of

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origin need not be express, but it may be by inference from the words or language used; (2) the use of fancy names of English appearance by themselves is not reprehensible; (3) the party complaining of this practice need not show actual damage; it is sufficient if he shows possible damage; (4) when possible damage is demonstrated the practice becomes unlawful *per se* and good faith is no defence.

It will be remembered that the following resolution was adopted at a meeting of the Associated Chambers of Commerce of the United Kingdom in March last:—"Whereas a practice has arisen amongst foreign manufacturers of marking their goods with English names or phrases of a nature to lead to the false supposition that they are British goods: It is resolved that representation be made to the Foreign Office to secure the effectual application to this practice of the provisions of the Convention of Madrid, of April 14th, 1891, on Industrial Property, and further, that the Foreign Office be requested to embody a clause in all official commercial treaties which may in the future be negotiated, with a view to securing the application of the said Convention." Various cases are mentioned in the current monthly circular of the British Chamber in Paris as demonstrating that nothing but the most active measures of repression will put an end to such practices.

NATURAL *v.* SYNTHETIC INDIGO.

[SPECIALLY CONTRIBUTED.]

IT was announced recently that a discovery had been made whereby the process of extracting natural indigo from the plant and preparing it for the market would be cheapened to such an extent that it would compete with synthetic indigo in price. The latter has never been able to oust it altogether from the market, in spite of the great difference in the relative cost. Dyers have always found customers who will pay as much as 6d. per yard on a piece of cloth for a colour which will not fade or modify its hue. But such consumers are limited, and the field of production has had to be limited in proportion.

It may be interesting in this connection to consider the history of indigo planting in Bengal. Dr. Shadwell has given us, in his "Industrial Efficiency" his conclusion that, where we have fallen behind our competitors in any industry, the cause is almost always to be found in the lack of energy and vigilance following on great prosperity. It would be hard to find a better instance of this than in the production of indigo.

In the days preceding the advent of synthetic indigo the planter was a rich man: a fortune was easily made, and while he was making it he lived like a Nawab. He built palatial mansions on his estates, kept his hounds, and brought into the business his sons and his friends' sons who had no other obvious profession or source of income—very often those who would not have found it easy to succeed elsewhere; admirable sportsmen, perfect gentlemen, but possessed of no particular ability or wish to excel in this industry.

Again, the sale of their output was entrusted to good old steady-going firms of general merchants, who did not handle the goods for nothing. They were accustomed to handling consignments, import and export, with little or no risk, and for very comfortable commissions; their duties as agents did not weigh upon them; they considered this and similar sources of income as permanent, and their junior staff discussed generalities in well-turned sentences in the homeward mail. Then came difficulties in selling the indigo; but the merchants were sanguine, and having known little or nothing of the industry before, did not think it worth while to look into the matter seriously now. They responded to calls for ready money, and perhaps chuckled as they stowed away mortgage deeds in their safes. And so before they knew it the business was ruined, the market flooded with cheap synthetic indigo, the planter shutting up homes in England and bringing his women folk out to India, while the merchant wondered whether he could recover even 5s. in the pound of his advances.

From whole districts such as Midnapore the industry disappeared altogether, and the colony of old planter families in Behar is almost the only relic of that all too easy source of revenue. An air of good breeding and boundless hospitality are distinguishing marks of the Behar indigo-planting community. They have had to pay dearly for their period of reckless prosperity, and so have the good easy-going merchants who, owing to the peculiar laws and customs of the district, could not evict their bankrupt debtors; nor, indeed, if they had succeeded in this could they have carried on the concerns themselves. They have in most cases thought best to cut their losses and sell their part or whole interest for an old song, the buyers in most cases being the former planters who—the capital being so to speak written down—are now able to pay their way. Latterly they have been doing what they should have done years ago—sharpening their wits, becoming businesslike, studying their own industry and its possibilities, experimenting in alternative crops, turning to chemistry, and looking for by-products to increase their profits. Native doctors consider indigo a reliable remedy for cholera: chance flooding of growing indigo has revealed the fact that the plant has valuable properties as a manure for other crops. Prosperity has not yet been regained in Behar, but there are possibilities and prospects for indigo and for other industries, such as sugar planting and refining, to the profitable working of which the path is being slowly pioneered.

Lastly, the merchants have learnt that as agents for indigo concerns, tea gardens, or similar undertakings, it does not pay in the long run to make money too easily; that it is better to study the industry at one end and the markets at the other, to keep in close touch with their planters, and to send representatives frequently to the estates up country. If the preparation of indigo is cheapened and the industry is given thereby a new lease of life, we may feel sure that those concerned in its production will not be in a hurry to imitate the methods of their predecessors.

THE LIMITED PARTNERSHIPS ACT, 1907.

THE following is the text of the "Act to Establish Limited Partnerships," to which reference is made in our editorial columns:—

(1.) This Act may be cited for all purposes as the Limited Partnerships Act, 1907.

(2.) This Act shall come into operation on the first day of January one thousand nine hundred and eight.

(3.) In the construction of this Act the following words and expressions shall have the meanings respectively assigned to them in this section, unless there be something in the subject or context repugnant to such construction:—

"Firm," "firm name," and "business" have the same meanings as in the Partnership Act, 1890:

"General partner" shall mean any partner who is not a limited partner as defined by this Act.

(4.)—(1) From and after the commencement of this Act limited partnerships may be formed in the manner and subject to the conditions by this Act provided.

(2) A limited partnership shall not consist, in the case of a partnership carrying on the business of banking, of more than ten persons, and, in the case of any other partnership, of more than twenty persons, and must consist of one or more persons called general partners, who shall be liable for all debts and obligations of the firm, and one or more persons to be called limited partners, who shall at the time of entering into such partnership contribute thereto a sum or sums as capital or property valued at a stated amount, and who shall not be liable for the debts or obligations of the firm beyond the amount so contributed.

(3) A limited partner shall not during the continuance of the partnership, either directly or indirectly, draw out or receive back any part of his contribution, and if he does so draw out or receive back any such part shall be liable for the debts and obligations of the firm up to the amount so drawn out or received back.

(4) A body corporate may be a limited partner.

(5.) Every limited partnership must be registered as such in accordance with the provisions of this Act, or in default thereof it shall be deemed to be a general partnership, and every limited partner shall be deemed to be a general partner.

(6.)—(1) A limited partner shall not take part in the management of the partnership business, and shall not have power to bind the firm:

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Provided that a limited partner may by himself, or his agent, at any time inspect the books of the firm and examine into the state and prospects of the partnership business, and may advise with the partners thereon.

If a limited partner takes part in the management of the partnership business he shall be liable for all debts and obligations of the firm incurred while he so takes part in the management, as though he were a general partner.

(2) A limited partnership shall not be dissolved by the death or bankruptcy of a limited partner, and the lunacy of a limited partner shall not be a ground for dissolution of the partnership by the court unless the lunatic's share cannot be otherwise ascertained and realised.

(3) In the event of the dissolution of a limited partnership its affairs shall be wound up by the general partners, unless the court otherwise orders.

(4) Applications to the court to wind up a limited partnership shall be by petition under the Companies Acts, 1862 to 1900, and the provisions of those Acts relating to the winding-up of companies by the court and of the rules made thereunder (including provisions as to fees) shall, subject to such modifications (if any) as the Lord Chancellor, with the concurrence of the President of the Board of Trade, may by rules provide, apply to the winding-up by the court of limited partnerships, with the substitution of general partners for directors.

(5) Subject to any agreement expressed or implied between the partners—

(*a*) Any difference arising as to ordinary matters connected with the partnership business may be decided by a majority of the general partners;

(*b*) A limited partner may, with the consent of the general partners, assign his share in the partnership, and upon such an assignment the assignee shall become a limited partner with all the rights of the assignor;

(*c*) The other partners shall not be entitled to dissolve the partnership by reason of any limited partner suffering his share to be charged for his separate debt;

(*d*) A person may be introduced as a partner without the consent of the existing limited partners;

(*e*) A limited partner shall not be entitled to dissolve the partnership by notice.

(7.) Subject to the provisions of this Act, the Partnership Act, 1890, and the rules of equity and of common law applicable to partnerships, except so far as they are inconsistent with the express provisions of the last-mentioned Act, shall apply to limited partnerships.

(8.) The registration of a limited partnership shall be effected by sending by post or delivering to the registrar at the register office in that part of the United Kingdom in which the principal place of business of the limited partnership is situated or proposed to be situated, a statement signed by the partners containing the following particulars:—

(*a*) The firm name;
(*b*) The general nature of the business;
(*c*) The principal place of business;
(*d*) The full name of each of the partners;
(*e*) The term, if any, for which the partnership is entered into, and the date of its commencement;
(*f*) A statement that the partnership is limited, and the description of every limited partner as such;
(*g*) The sum contributed by each limited partner, and whether paid in cash or how otherwise.

(9.)—(1) If during the continuance of a limited partnership any change is made or occurs in—

(*a*) the firm name,
(*b*) the general nature of the business,
(*c*) the principal place of business,
(*d*) the partners or the name of any partner,
(*e*) the term or character of the partnership,
(*f*) the sum contributed by any limited partner,
(*g*) the liability of any partner by reason of his becoming a limited instead of a general partner or a general instead of a limited partner,

a statement, signed by the firm, specifying the nature of the change shall, within seven days, be sent by post or delivered to the registrar at the register office in that part of the United Kingdom in which the partnership is registered.

(2) If default is made in compliance with the requirements of this section each of the general partners shall, on conviction under the Summary Jurisdiction Acts, be liable to a fine not exceeding one pound for each day during which the default continues.

(10.)—(1) Notice of any arrangement or transaction under which any person will cease to be a general partner in any firm, and will become a limited partner in that firm, or under which the share of a limited partner in a firm will be assigned to any person, shall be forthwith advertised in the Gazette, and until notice of the arrangement or transaction is so advertised, the arrangement or transaction shall, for the purposes of this Act, be deemed to be of no effect.

(2) For the purposes of this section, the expression "the Gazette" means—

In the case of a limited partnership registered in England, the London Gazette;
In the case of a limited partnership registered in Scotland, the Edinburgh Gazette;
In the case of a limited partnership registered in Ireland, the Dublin Gazette.

(11.) The statement of the amount contributed by a limited partner, and a statement of any increase in that amount, sent to the registrar for registration under this Act, shall be charged with an *ad valorem* stamp duty of five shillings for every one hundred pounds, and any fraction of one hundred pounds over any multiple of one hundred pounds, of the amount so contributed, or of the increase of that amount, as the case may be; and in default of payment of stamp duty thereon, as herein required, the duty with interest thereon at the rate of five per cent. per annum from the date of delivery of such statement shall be a joint and several debt to His Majesty, recoverable from the partners, or any of them, in the said statements named, or, in the case of an increase, from all or any of the said partners whose discontinuance in the firm shall not, before the date of delivery of such statement of increase, have been duly notified to the registrar.

(12.) Every one commits a misdemeanor, and shall be liable to imprisonment with hard labour for a term not exceeding two years, who makes, signs, sends, or delivers for the purpose of registration under this Act any false statement known by him to be false.

(13.) On receiving any statement made in pursuance of this Act the registrar shall cause the same to be filed, and he shall send by post to the firm from whom such statement shall have been received a certificate of the registration thereof.

(14.) At each of the register offices hereinafter referred to the registrar shall keep, in proper books to be provided for the purpose, a register and an index of all the limited partnerships registered as aforesaid, and of all the statements registered in relation to such partnerships.

(15.) The registrar of joint stock companies shall be the registrar of limited partnerships, and the several offices for the registration of joint stock companies in London, Edinburgh, and Dublin, shall be the offices for the registration of limited partnerships carrying on business within those parts of the United Kingdom in which they are respectively situated.

(16.)—(1) Any person may inspect the statements filed by the registrar in the register offices aforesaid, and there shall be paid for such inspection such fees as may be appointed by the Board of Trade, not exceeding one shilling for each inspection; and any person may require a certificate of the registration of any limited partnership, or a copy of or extract from any registered statement, to be certified by the registrar, and there shall be paid for such certificate of registration, certified copy, or extract such fees as the Board of Trade may appoint, not exceeding two shillings for the certificate of registration, and not exceeding sixpence for each folio of seventy-two words, or in Scotland for each sheet of two hundred words.

(2) A certificate of registration, or a copy of or extract from any statement registered under this Act, if duly certified to be a true copy under the hand of the registrar or one of the assistant registrars (whom it shall not be necessary to prove to be the registrar or assistant registrar) shall, in all legal proceedings, civil or criminal, and in all cases whatsoever be received in evidence.

(17.) The Board of Trade may make rules (but as to fees with the concurrence of the Treasury) concerning any of the following matters—

(*a*) The fees to be paid to the registrar under this Act, so that they do not exceed in the case of the original registration of a limited partnership the sum of two pounds, and in any other case the sum of five shillings;
(*b*) The duties or additional duties to be performed by the registrar for the purposes of this Act;
(*c*) The performance by assistant registrars and other officers of acts by this Act required to be done by the registrar;
(*d*) The forms to be used for the purposes of this Act;
(*e*) Generally the conduct and regulation of registration under this Act and any matters incidental thereto.

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes colours, etc., exported during September, 1907, as compared with September, 1906:—

ARTICLES.	QUANTITIES. Month of September. 1907.	1906.	VALUE. Month of September. 1907.	1906.
			£	£
BLEACHING MATERIALS:				
To U.S.A. .....Cwts.	66,781	61,926	13 352	12,640
,, Other Countries ,,	25,376	25,450	5.979	6,202
Total .... ,,	92,157	87,376	19.331	18,842
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	128,959	191,494	27,873	35,144
Carbolic Acid .. ,,	9,439	9,256	10,954	11,528
Naphthalene and Anthracene .. ,,	10,631	7,218	2,434	1,790
Other Sorts .... ,,	217,484	365,120	38,044	46,996
Total .... ,,	366,513	573,088	79,305	95,458
COPPER, Sulphate of. Tons	763	473	21,228	11,272
CREAM OF TARTAR Cwts.	73	71	236	276
DYE STUFFS:				
Products of Coal Tar ..... ,,	4,321	2,837	14,032	9,194
Other Sorts .... ,,	18,826	13,938	14,766	14,772
Total .... ,,	23,147	16,775	28,798	23,966
GLYCERINE .....Cwts.	13,598	12,121	29,005	23,625
MANURE (Chemical):				
To Germany .. Tons	2,572	2,240	24,700	19,524
,, Belgium .... ,,	142	34	1,548	150
,, France .... ,,	4,598	5,611	20,971	28,215
,, Spain & Canaries ,,	10,629	9,292	48,571	53,060
,, British West India Islands (including Bahamas) & British Guiana .. ,,	1,029	437	5.629	5,060
,, Other Countries ,,	51,444	43,562	242,188	211,887
Total .... ,,	70,414	61,176	343,607	317,896
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	127,309	125,580	5,813	5,267
Unenumerated Value £	—	—	123,991	124,343
Total	—	—	129,804	129,610
MURIATE OF AMMONIA ....Cwts.	10,075	10,948	13,523	14,478
PAINTERS' COLOURS AND MATERIALS:				
White Lead ..Cwts.	30,909	34,110	39,574	36,270
Nickel Oxide .... ,,	10	1,151	75	8,250
Zinc Oxide .... ,,	6.203	9,446	8,015	11,168
Other Sorts .... ,,	114,555	114,413	146.334	141,665
Total .... ,,	151,677	159,120	193,998	197,353
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	109.336	154.049	25,509	35.449
,, Bicarbonate ,,	33,427	35,759	10.485	10,878
,, Caustic .... ,,	134.102	115,420	68,527	58,180
,, Crystals .. ,,	20,063	13,864	3,375	2,357
,, Sulphate (Saltcake) ,,	73.102	135,430	6,202	10,215
,, Other Sorts ,,	36,662	29,620	27,662	12,732
Total .. ,,	406,692	484,142	141,760	129.811

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of September. 1907.	1906.	VALUE. Month of September. 1907.	1906.
			£	£
SULPHURIC ACID ..Cwts.	5,250	11,184	2,285	4,772
TARTARIC ACID .. ,,	111	138	580	641
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) ....Value £	—	—	223,965	218,968
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	1,055	157	612	243
,, Belgium ..... ,,	2,061	1,852	1,020	1,199
,, U.S.A. ..... ,,	3,101	4,379	4,006	5,734
,, British E. Indies ,,	17,134	14,775	10,115	9,328
,, Australia .... ,,	634	2,249	565	2,436
,, New Zealand . ,,	492	358	582	550
,, Canada ..... ,,	9,650	8,507	7,900	6,865
,, Other Countries ,,	18,299	15,911	16,831	11,056
Total ..... ,,	52,426	48,188	41,631	37,411

THE LABOUR MARKET IN SEPTEMBER.

THE Memorandum prepared by the Labour Department of the Board of Trade for the *Board of Trade Labour Gazette*, on the state of the labour market in September states that during the month employment was, on the whole, worse than in August. The shipbuilding and engineering trades continued to decline, and there was also some falling off in the building trades and in the furnishing trades. The coal mining and tin plate industries remained very brisk. As compared with a year ago, there was some improvement in coal mining and in all the textile industries, and a decline in the engineering, shipbuilding, printing and bookbinding trades. In the 273 trade unions, with a total membership of 631,241, making returns, 28,914 (or 4.6 per cent.) were reported as unemployed at the end of September, 1907, compared with 4.0 per cent. at the end of August, 1907, and 3.8 per cent. at the end of September, 1906.

Twenty-nine new disputes began in September, as compared with 27 in the previous month, and 23 in September, 1906. The total number of workpeople affected by disputes which began or were in progress during September, 1907, was 10,833, or 3,079 less than in August, 1907, and 10,544 less than in September, 1906. The aggregate duration of all the disputes of the month, new and old, amounted to 72,100 working days, or 113,300 less than in August, 1907, and 75,300 less than in September, 1906. Definite results were reported in the case of 24 disputes, new and old, directly affecting 3,160 persons. Of these 24 disputes, 10 were decided in favour of the workpeople, 7 in favour of the employers, and 7 were compromised.

The changes reported in September affected 29,000 workpeople, all of whom received advances. Included in this total were 12,000 coal miners in the Forest of Dean, Radstock, and Bristol districts, 4,000 shale miners in Scotland, and 5,000 iron and steel workers in South Wales, and 3,000 in Scotland. The total computed effect of all the changes reported was an advance of about £2,500. per week.

Obituary.—The death took place, on the 4th inst., of *Mr. D. Dawson*, the founder of the firm of D. Dawson and Sons, chemical manufacturers, Milnsbridge, Huddersfield. Mr. Dawson was in his 71st year.

WEST MOUNT LYELL LTD.—Capital £100,000., in £1. shares. This company has been formed to take over all or any of the assets of any other company, and to carry on the business of gold, silver, copper, lead, tin, quicksilver, iron, stone, coal and general miners. No initial public issue. The first directors are R. E. Tyler, of Spring Grove, Osterley Park, and J. E. Franck, 11, Pancras Lane, E.C. Qualification, one share. Remuneration, £100. each per annum (£50. extra for the chairman). Registered office, 212-13, Mansion House Chambers, E.C.

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THE DEODORISATION OF FISH OILS.

By Josef Hankam (communicated by H. Wiskemann).

In the fat and oil industries there is perhaps no section which has been so stimulating to research as the deodorisation of fish oils and fats. The reason for this activity is no doubt fairly evident to those interested in the industry. The very large quantities of fish oils available year by year from Norway, Newfoundland, Japan, Canada, etc., provide an excellent raw material for the manufacture of soap, and the lower prices of the suitable oils, as compared with other raw materials, afford sufficient incentive for the manufacturer to use them as far as possible. The higher prices of linseed oil and oleine restrict him to whale oil for the production of soaps which will stand the cold. The use of whale oil is of course limited in the case of those manufacturers who are unable to deodorise it.

In this article I refer only to the use of fish oils and fats as far as the manufacture of soap and stearine is concerned, and in these industries the oils and fats must be particularly free from smell. For the manufacture of "degras" and leather the deodorisation of the oils is not a matter of first importance.

Of the four qualities obtainable in the market, hitherto only Nos. 0, 1, and 2 could be used in the manufacture of soap; No. 3 quality was quite unsuited for this purpose, owing to its penetrating and fishy smell. The fish-oil stearine obtained from the clearing vats in the large cod liver oil factories is also an excellent raw material for the manufacture of soap and stearine, although it possesses the characteristic fishy smell.

For some years I have been occupied with the working up and utilisation of fish fats or fish grease; the object being the production of fatty acids which in turn would serve for the manufacture of stearine. These fish fats have a remarkably high titre, a fact that is intimately connected with a considerable yield of stearine (about 50%). The water-white kinds of fish-oil stearine are likewise very suitable for the production of "smooth" oleine or silver soap; the darker and brown descriptions are not immediately suitable because of the pronounced fishy odour. Some of the fish-fats worked up in the course of the experiments had titres of 38.2° C., 38.9° C., 40.8° C., and 41.2°C. They correspond, therefore, as regards the point of solidification of the fatty acids, to a good bone fat. The amount of free fatty acids fluctuates in the case of these fats, ranging in the material dealt with from 13.24% to 33.63%. For laboratory purposes only there had come under my notice fish-fats with as much as 63.57% of free fatty acids.

While on the one hand fish oils and fats varying greatly in character would apparently form a good raw material, on the other hand the drawback of smell, although in many cases being absent so far as the resultant soap is concerned, nevertheless manifests its presence in the linen washed with such soap. Even in the waste fats from industries in which fish oils have been used ("degras" for instance), and in which besides other kinds of fats—such as tallow, wool fat, and vaseline oils,—only a certain percentage of fish-oil is added, the characteristic smell can immediately be detected, notwithstanding the various operations entailed by the regeneration of the fats. This consideration prevents the sale of such waste fats, whether purified or not. Even by distilling the split fish-oil fatty acids it is not possible to eradicate the odour; although this is temporarily decreased, it reappears after a time.

As the result of my experiments on this subject, which have extended over a number of years and have been made on a fairly large scale, I find that unless the smell is eliminated the ready sale of such fish oils or their fatty acids for the manufacture of soaps and stearine is out of the question. Although the stearine obtained has but a slight odour, and, when mixed with tallow, bone fat, palm oil, vegetable tallow, etc., it can generally be used directly for making candles, there are traces of the smell to be found subsequently in the oleine. For this reason the sale of the latter is extremely difficult, apart from the fact that it contains a somewhat larger proportion of non-saponifiable constituents.*

The difficulty in deodorising the fish-oils and fish-fats is due to the presence of various nitrogenous compounds, which in the process of obtaining the fish-oils become incorporated with them,† and these nitrogenous compounds, unless completely eliminated, give rise to repeated decomposition. Hence it is only possible to successfully deodorise any fish-oil and fish-fat if from the outset the fullest attention is given to the way in which these oils are obtained. It is essential that at the place of extraction the fish-oils should be sufficiently purified to prevent sundry glue-like and albuminous substances from being dissolved by the oils, otherwise these will give rise to the objectionable smell.‡ It is not sufficient for the durability of fish-oils to simply purify them by allowing the gluey and slimy substances to settle down.

In the course of time a number of methods for the elimination of the smell have been elaborated, but many of them have shown but indifferent results. The methods which act by causing the smell to disappear temporarily by the use of various perfumes, such as oil of mirbane, ginger-grass oil, cumarin, menthol, etc., cannot seriously come into question here.§ Although for a time the smell may be disguised, it reappears in its original intensity when the fats are used, for example, in the manufacture of soap and stearine, where they are exposed direct to the action of steam, as the volatile perfumes which have been added are then carried off with the steam. Frequently—and more especially so if the much favoured oil of mirbane is employed—the result is that the presence of this scent gives rise to doubts regarding the product. Hence the use of scents is only a make-shift, which does not overcome the drawback, which is apt to recur upon the slightest external provocation.

(*To be continued.*)

* The amount of non-saponifiable constituents of such fish-oil oleins has been determined by me in several cases, and has invariably been found to exceed 1 per cent. In crude fish oils from various sources the amount of non saponifiable constituents was found to be 1 37, 1 55, and 1.57 per cent. In one instance, where the fish fat had an exceedingly penetrating smell, and had been rendered impure by various glue-like substances, I found 2.21 per cent. of non-saponifiable constituents.

† See *Chemiker Zeitung* of 1900. There form in fish oils offensive-smelling bases, such as cadaverin ($C_5H_{16}N_2$) gadinin ($C_7H_{17}NO_2$), putresein $C_4N_{12}N_2$). According to Gregor Sandberg it is a question of the products of decomposition of albuminous substances, such as amines NH_2 (CH_3), NH (CH_3)$_2$, N (CH_3)$_3$.

‡ See also Dr. Lewkowitsch's noteworthy suggestions, *Seifensieder Zeitung*, Augsberg, 1903, No. 32.

§ See also *Seifenfabrikant*, 1903, page 353, *Ueber die Aufarbeitung minderwertiger Fette*, von Drs. Stiefel and Seidler.

Continental Notes.

In the *Chemiker Zeitung* for October 2, K. Dieterich writes on the analysis of beeswax in various stages of its production. According as the wax is newly formed or has served for the storage of honey for several years it differs very considerably in outward appearance and also in the proportion of matter insoluble in chloroform. It becomes darker in colour as it gets older, and becomes more insoluble. The melting-point and specific gravity also fall in the course of time, as is shown by the figures which the author has obtained with some genuine samples. Commercial samples of beeswax, however, always consist of mixtures of waxes of various ages. They also, almost invariably, contain some foreign wax, which; however, has not been added as an adulterant, but is the material of which the artificial cells were made; of these latter there are generally a few rows in every new frame that is used. The object of these artificial cells is of course to render the building of the comb more easy for the bees. The author also deals with "bees' resin" or "propolis," which is used by the bees to fasten the frames and the commencement of the combs, and to cover over material that is beginning to decompose. This "propolis" is not easy to obtain, as it is generally put in together with the wax, and the quantity available was not sufficient to enable the author to make a full examination.

In the *Zeitschrift für das gesamte Schiess-mund Sprengstoffwesen* for August 15, Dr. H. Rohne gives a brief account of the early attempts of Captain Schultze to improve gunpowder. Being a practical manufacturer, he approached the problem from the point of view of the maker rather than of the user; his object was to diminish the danger of manufacture, and also to cheapen it by reducing the proportion of nitre. The process he worked out consisted of purifying wood by boiling, etc., then forming it into little cylinders, and impregnating it with saltpetre or barium nitrate. The product was, however, too violent to use in rifled firearms, although it found some favour as a sporting powder. Later on the strength was increased by nitrating the wood, and its violence was kept within moderate bounds by the addition of paraffin wax and other materials.

The same issue contains instalments of a paper on the calorimetric examination of explosives, and the action of explosions

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at a distance, the latter being a translation of the account given in the "Mémorial des Poudres et Saltpêtres," of the experiments carried out under the direction of the French authorities.

In the issue of September 15, Dr. F. Erban writes on arrangements for dealing with fires in factories, and points out the importance of having up-to-date appliances for the extinguishing of conflagrations. The fire brigade should be under the direct command of the manager or one of the principal officials of the factory, so that there may be no danger of dispute as to orders. It is specially important in chemical works that the fire should be attacked in its early stages, for if it once obtains hold the damage done may be enormous, as was only too clearly shown in the case of the fire in the picric acid factory at Griesheim-Elektron, and more recently at the roburite factory at Witten. The arrangements to be made must of course depend upon the local conditions, and in each separate case it is necessary to decide whether hydrants, sprinklers, or fire engines are the best appliances to provide, but in all cases it should be remembered that undue economy is not cheap in the long run. In the enormous chemical works at Höchst there is a very well organised brigade, provided with all the most modern appliances. In order that valuable time may not be wasted in getting up steam in fire engines, portable steam pumps are provided, which can be very rapidly connected with the boiler of a locomotive which is kept under steam day and night. This pump draws water from one of the numerous hydrants that are scattered about the works, and as there are lines of rails throughout, it can throw three or four powerful jets to any spot.

To the British commercial man it would almost appear impossible to carry on extensive financial and commercial business without a system of bankers' cheques such as we have in this country. Nevertheless, this great convenience is absent in Germany, and it is only now proposed to bring in a law that shall encourage this method of making payments. One consequence of the absence of this system in Germany is that a very large proportion of the payments have to be made in cash, and the demand for money is therefore great, while the bank rate is proportionately high. In *Chemische Industrie* for September, Dr. E. Kloeppel gives some particulars of the proposed law. It appears that the Germans are still afraid to make payment by cheque as simple and easy as it is in this country. They consider, for instance, that there should be a provision that the cheque should be presented for payment within seven days of the date when it was drawn, and that the drawer should not have the power to stop payment until this period has expired.

Reports of Companies.

SALINAS OF MEXICO, LTD.

In May, 1906, this company took over from a local firm salt-producing properties which had practically a monopoly of the local supply. The new works at Salinas and Palomas have made considerable progress, though the new installations did not come into use in time to effect the results of the financial year. The quality and quantity of the salt produced compare favourably with those obtained by previous owners.

The gross profit of the twelve months was £21,085., the net profit of which is £18,750., and the directors recommend that £1,000. should be transferred to the plant renewals and depreciation account, and a balance of £4,491. carried forward. Of the nominal capital of £325,000., £280,007. has been issued in fully paid shares and 1,250 shares of £1. are 1s. paid. All the £300,000. 5% participating debentures are issued and paid-up. The property item stands at £527,867., and includes some valuation for intangible assets; the remaining assets are—stocks, £32,500., debtors £6,388., and cash £21,855. The company is making trial borings in order to find deposits of heavier brine, which, if found, will enable the company to increase its output of salt and reduce the cost of production.

WILLANS AND ROBINSON, LTD.

At the meeting of shareholders, held last week, Mr. M. Robinson, who presided, said that the marked improvement in the results was primarily due to the late reduction of capital, which had not only enabled them to distribute the profits made, but by removing for the present the necessity for further writing down the reduced valuation of the Queensferry property had added substantially to their profit. The new business at Rugby was doing well, the profit for the two half years ending June 30 exceeding £41,000. The price of all materials used in the engineering trade was very high. Competition was greatly increasing, and continued to cut down prices and profits, with growing harm to the trade and little gain to anyone. They had avoided the reckless tendering which was, unfortunately, so common, but had carried off by far the greater part of the publicly advertised contracts for steam turbines, though their prices were rarely the lowest. They proposed to pay a 10% dividend, which was a promising beginning after the reorganisation of the capital.

THE TRADE OF LOURENCO MARQUES.

In his report on the trade of Lourenço Marques for the year 1906, Consul-General Major Baldwin states that the imports for local consumption show a decrease in value of £80,418., equal to 7.7%, as compared with the year 1905, and of 14.4% as compared with the average for the three years 1903-05.

The importation of cement has increased since the year 1905 from 5,352 to 7,988 tons, but while the United Kingdom's share has decreased from 19 to 14%, Germany's has increased from 58 to 64%.

There are possibilities in the cultivation of rubber-producing plants, but it yet remains to be seen what particular species are most suitable for the soil and climate. Varieties of Landolphia occur in the districts of Gaza and Inhambane where they are indigenous, but the native method of collection is destructive to the vine, and as yet no systematic effort has been made to regulate it. A plantation of Ceara rubber exists at Inhambane, and experiments with the same tree have been carried out in the Lourenço Marques district, but their success has not been striking. The comparatively long time which must elapse between the planting and a profitable yield tends to discourage the investment of capital in the industry.

Ceara rubber has been planted on a large scale in the open ground near Inhambane, where it is subjected to the force of the prevailing south winds. This species is a forest tree and requires shelter, notwithstanding which, trees six years old from this plantation have yielded from ¾ to 1 lb. of excellent rubber. Landolphia are the great rubber-yielding vines. Practically there are only three kinds in this district; these grow in thick forest shade rambling from tree to tree and often found over 400 feet in length. The latex from these vines coagulates quickly by the atmospheric action, so that no artificial aid is required to harden the substance. The annexed table gives a comparison of the quantities exported:—

Year.	Quantity. Tons	Value. £
1903	37.87 ..	6,508
1904	42.41 ..	13,052
1905	14.70 ..	4,905

The prevalent local price is 8s. to 9s. per 2.34 lbs.; second quality, 4s. to 5s. per 2.34 lbs. There are enormous possibilities, as the amount available has only been exploited to a small extent.

Inquiries show that trees from which mangrove bark is obtainable grow in great profusion within a 10-mile radius of this port along the banks of the small rivers connecting with the bay on which the town stands.

The principal imports to Lourenço Marques have been as follows:—

	Quantity. 1903.	1904.	1905	1906	Value. 1906.
Candles.....lbs.	124,000 ..	102,000 ..	76,000 ..	92,646 ..	£1 951
Cement.....tons	7 691 ..	9 127 ..	5,352 ..	7,988 ..	20,272
Chemicals and apothecaries' wares.....lbs.	610,000 ..	214,000 ...	198,000 ..	350.419 ..	11 364
Gunpowder.....lbs.	— ..	7,510 ..	156 ..	9,272 ..	383
Indiarubber goods lbs.	— ..	— ..	— ..	13 770 ..	980
Lime and chalk.....tons	— ..	273 ..	199 ..	71 ..	337
Matches.....lbs.	35,840 ..	60,817 ..	58,597 ..	41 996 ..	908
Oils:—					
Mineral.....lbs.	1 005,600	1,334,300 ..	1 322 772 ..	1 488,509 ..	10 901
Sweet..... ,,	— ..	365,750 ..	316 613 ..	380,958 ..	9 809
Others..... ,,	— ..	393 000 ..	77 834 ..	132,675 ..	1 607
Paints and dyes....lbs.	— ..	403 846 ..	284,359 ..	422,592 ..	5,365
Salt.....lbs.	152,320 ..	324,904 ..	143,402 ..	285,091 ..	483
Soap.....lbs.	295,680 ..	549,475 ..	618,157 ..	412,857 ..	6,488
Tar and pitch.....lbs.	— ..	156,013 ..	113,872 ..	59,431	271
Tin and zinc.....tons	— ..	34 ..	43 ..	31 ..	1,000
Turpentine.....lbs.	— ..	26,219 ..	24,167 ..	31,504 ..	728
Varnish.....lbs.	— ..	10,127 ..	27,317 ..	36,096 ..	865

The principal exports from the same were:—

	Quantity. 1903	1904.	1905	1906	Value. 1906.
Salt .. tons	..	..	11	24 ..	£60
Wax .. lbs.	4,521	6,759	9,253	5,759 ..	232

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AN AUTOMATIC CHAIN-MAKING MACHINE.

THE necessity for cheap mechanical transport of bulk goods between the various points in a large manufacturing establishment has resulted in the evolution of a highly efficient system of automatic conveyers; and the general adoption of these machines has in turn called for great improvements in the manufacture of the conveyer belts required for this purpose. Mr. Gilbert Little is well known in connection with the development of automatic conveying plant, and the illustration below (Fig. 1) shows an ingenious machine which is now in operation

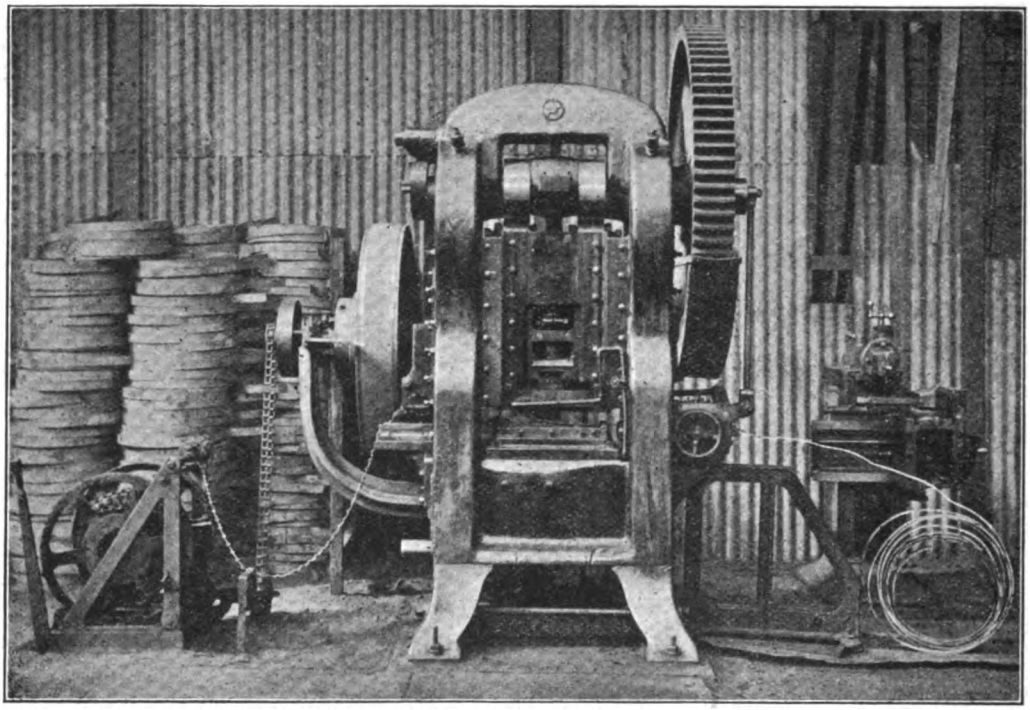

FIG. 1.

at the works of the Gilbert Little Co., Ltd., of Bradford, for the manufacture of the Locke tempered steel link-belt.

The machine works quite automatically. A steel bar is drawn in at one end, and is delivered as a finished assembled chain, various sizes of which are now being extensively adopted in many industries for conveyers, elevators, and chain-drives generally. A chain transmits power through sprocket-wheels

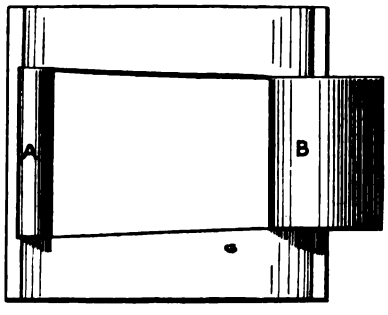

FIG. 2.

to conveyers and chain-drives as positive as two gear wheels; no form of textile or leather belting can be relied upon to do this. The Gilbert Little Company, who last year bought extensive new works, adjoining Great Horton Station, Bradford, have arranged for the exclusive handling of the machine-made Locke patent belt. The chief defects common to most malleable cast links are unevenness in pitch and the stretching of the metal when at work. Mr. Duncan Sinclair, a director of the Gilbert Little Company, has made a special study of tempered steel, and after costly experimenting he has overcame these defects. Mr. Sinclair discovered that steel of a specially resilient character, hardened and tempered in a certain way, was essential to satisfactory results in working. The steel now used in the links springs and recovers if the chain, while in use, is subject to sudden shocks or intermittent jerks. Since the Company took up the handling of the machine-made link-belt, the various sizes have been put to work under the most severe conditions, and have proved satisfactory where other forms of chain-belts had failed.

It will be seen from our illustration that the links are easily detached from, or attached to, one another. All that has to be done is to turn up any particular link, as shown in our illustrations, and it will slip over the end of the annexed link. A feature of each link, of any size, is that the bearing or wearing surface is double that of any other form of chain-belt. Experience has proved that the tempered steel belt is as efficient in use as it is simple in construction. The outstanding advantages appear to be that it possesses, size for size, double the working strain of the corresponding numbers of malleable castchains, although only one-half the weight; therefore smaller and cheaper sizes can be used for the same duty, while the wearing properties of the tempered steel chain, with the larger bearing surfaces, are such that it lasts twice as long as malleable cast chains.

The links themselves are made very simply. The automatic machines draw in strips or bars of steel and cut the desired lengths. Each separate piece then has three cuts made in it

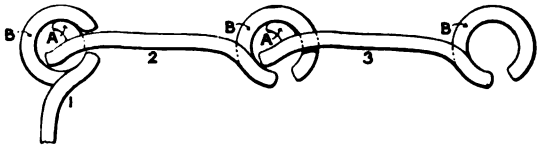

FIG. 3.

through the steel, these cuts forming a figure very much like the letter H, but slightly tapered, and with the cross-cut nearer one end than the other. The two tongues A and B are then bent to the forms shown at A and B in Figs. 2 and 3, A being, of course, shorter and wider than B. The links so formed easily fit into one another. On the left hand of Fig. 3 is shown the manner in which this fitting together is effected. When in the position indicated, the link 1 can readily be slid over the end of link 2, and having been slid far enough, it is turned

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through a right angle. The tongue B, being narrower than A, readily enters the place left vacant in link 2 by the latter when it is bent up to form the link, and the links 1 and 2 will take up relatively the same positions as are occupied by links 2 and 3, in Fig. 3. The machine turns out all sizes of chain at the rate of 200 feet per hour.

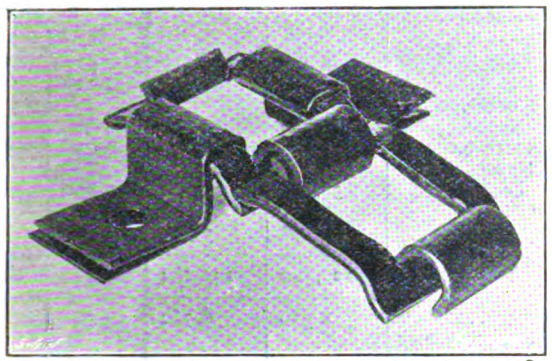

FIG. 4.

Fig. 4 shows two completed links, one of which has an attachment for carrying an elevator bucket. Fig. 5 shows a variety of the designs of attachments manufactured, but numerous other styles are made to meet all requirements, and the attachments, besides being detachable and renewable, are made of steel. This makes them over four times stronger than attachments cast on other forms of link-belts.

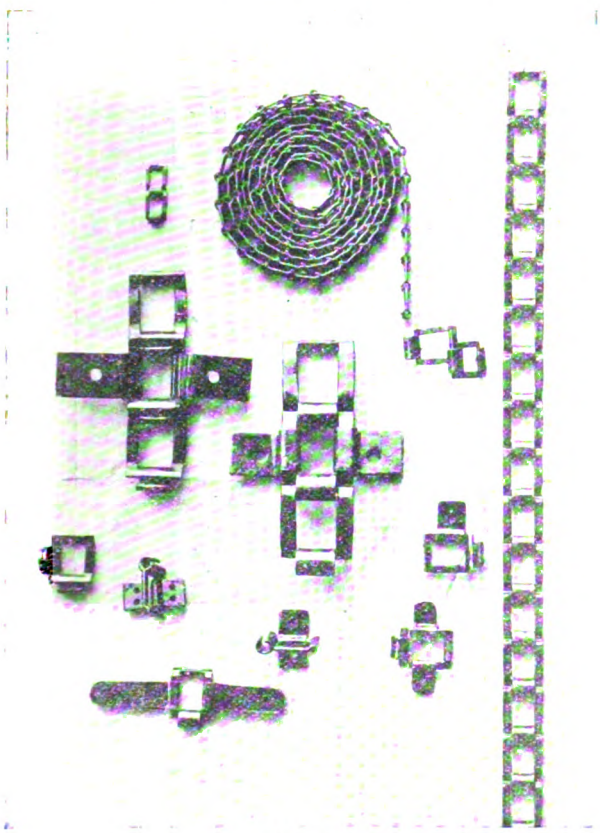

FIG. 5.

Numerous tests have been made of all sizes of the belts, with the result that, size for size, they are only half the weight of the corresponding numbers of malleable cast links, but possess double the working strain. The standard sizes work on "Ewart's," "Ley's," or "Bagshawe's" wheels, but all sizes of sprocket-wheels are made by the Gilbert Little Company.

LONDON QUARTERLY INDIGO SALES.

MESSRS. MILLWARD AND CO. report as follows, under date October 14th.

The last quarterly sale of the year took place to-day, when out of 650 chests declared, 580 chests were brought forward, 70 chests having been withdrawn and not printed. The indigo offered may be classified in comparison with the corresponding sales last year as follows:—

	1907.		1906.
Bengal	222 chests.	..	375 chests.
Kurpah	260 ,,	..	65 ,,
Madras	89 ,,	..	77 ,,
Musters, Figs, &c..	9 ,,	..	3 ,,
Total ..	580 chests.	..	520 chests.

Good and fine Bengal afforded a fair selection, but ordinary and common grades were scarce. Kurpah was in good supply, especially in the finer qualities, but most of the dry-leaf Madras offered was low and common with a few good lots.

During the past three months the market has been quiet, with a small but steady trade at firm prices. The absence of medium qualities testing about 60% has restricted business, but consumers are realising more generally that excellent dyeing results may be obtained by using the fine Bengal and ordinary Kurpah together. Very small stocks are held either by dealers or users, and trade, pending freer supplies, will continue from hand to mouth.

Unfortunately, the worst fears concerning the new crop have been realised, and instead of a larger out-turn it is now doubtful whether last season's small yield will be even equalled—indeed, the most reliable estimates put 25,000 to 26,000 maunds as the maximum. This continuous blighting of prospects for a number of seasons in unbroken succession must be very disheartening to planters, but they have encouragement to proceed in the excellent yield of the Java-Natal seed plant, and the knowledge that these bad weather seasons are abnormal, and may be followed by a sequence of favourable years. In the meantime, users must recognise the fact that they will have to wait a little longer for the anticipated larger supplies and cheaper prices.

Deliveries, January 1st to October 11th.		Stocks in London, October 11th.	
1907.	1906.	1907.	1906.
2,350 Chests.	2,732 Chests. ..	2,486 Chests.	2,247 Chests.
530 Serons.	624 Serons. ..	188 Serons.	460 Serons.

The sales were fairly well attended, and any lots moderately priced met with a ready sale at firm prices, excepting for a few odd lots of Kurpah, which were knocked down rather cheaply. Most of the lots withdrawn are limited above the currency.

Quotations for Bengal are fully par to slightly dearer; Kurpah, par to slightly easier; Madras and Figs, no sales reported. Of the 650 chests declared, 200 were sold.

Present currency is:—Bengal, 2s. 6d. to 4s. 6d. per lb.; Kurpah, 1s. 4d. to 2s. 9d.; Madras, 1s. 3d. to 2s. 3d.; Figs, 1s. 4d. to 1s. 6d.; Guatemala, 2s. 6d. to 3s.; Java, 3s. 3d. to 5s.

ELECTROLYTIC ALKALI CO., LTD.—Registration has been made of the issue, on September 23, of £1,600. 4½% first mortgage debentures, part of series created July 9th, 1904, to secure £50,000., charged on the company's undertaking and property, present and future, including uncalled capital. Previously issued of same series, £31,100.

URAL GOLD.—According to data furnished by the Ural Gold Smelting Laboratory, the quantity of gold submitted to be smelted at that laboratory in the month of August was 8 poods, 5 funt, 2 solotniks, 71 dolie, or about 6 poods, 3 funt less than last year. No gold was offered from the Perm and West Ekaterinburg circuits. For the eight months up to the end of August this year (O.S.), the quantity of gold smelted was 68 poods, 7 funt and 47 solotniks, or 43 poods, 24 funt less than last year.

LILITIA NITRATE CO., LTD.—Registration has been made of a trust deed, dated September 20, 1907, to secure £75,000. debentures, created by resolution of even date. Property charged (specifically): Land and nitrate grounds known as Terrenos Lily, containing about eight Chilian estacas in the Department of Taltal, Chili, with the oficina works, buildings, fixed plant, and machinery thereon. (As a floating security): The company's undertaking and property, present and future, including uncalled capital (if any).

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during September, 1907, as compared with September, 1906:—

ARTICLES.	QUANTITIES. Month of September. 1907.	QUANTITIES. Month of September. 1906.	VALUE. Month of September. 1907.	VALUE. Month of September. 1906.
OIL SEEDS.				
COTTON:			£	£
From Egypt .Tons	8,613	15,671	68,933	107,171
,, Other Countries . ,,	28,594	10,289	170,058	56,115
Total ... ,,	37,207	25,960	238,991	163,286
FLAX OR LINSEED:				
From Russia .Qrs.	10,990	30,351	23,023	59,941
,, U.S.A. . ,,	5,547	10,475	12,203	21,321
,, Argentine Republic . ,,	13,852	49,955	30,355	99,040
,, British East Indies ,,	100,966	38,487	225,514	79,738
,, Other Countries . ,,	24,781	77,949	53,253	154,130
Total ... ,,	156,136	207,217	344,348	414,170
RAPE:				
From Russia .Qrs.	—	—	—	—
,, British East Indies ,,	52,746	1,557	103,086	3,950
,, Other Countries . ,,	2,372	1,498	5,551	4,086
Total ... ,,	55,118	3,055	108,637	8,036
OILS, REFINED:				
Cocoanut..Cwts.	8,654	13,057	16,824	20,776
Cottonseed Tons	281	779	9,248	18,420
Olive.....Tuns	159	146	8,791	7,611
Palm.....Cwts.	—	179	—	260
Total Value £	—	—	34,863	47,067
OILS.				
Fish(train,blubber and Sperm) Tuns	4,191	3,790	78,635	65,216
Cocoanut, unrefined....Cwts.	45,210	17,531	79,724	26,606
Olive ,, Tuns	256	389	10,112	13,094
Palm ,, Cwts.	115,020	87,736	138,650	103,089
PETROLEUM:				
Crude ....Glns.	—	200	—	13
Lamp Oils .. ,,	10,775,678	10,268,322	167,406	170,442
Spirit .... ,,	1,404,578	3,916,459	41,952	97,660
Lubricating Oils .... ,,	5,041,332	3,899,442	154,146	132,651
Gas Oil ... ,,	7,110,232	3,350,374	105,083	41,307
Fuel Oil .... ,,	515,925	2,112	6,807	27
Total of Petroleum ,,	24,847,745	21,436,909	478,394	442,100
SEED OIL:				
Cotton-seed Tons unrefined .. ,,	—	39	—	803
Linseed pure ,,	121	456	3,120	9,031
,, not pure ,,	48	197	695	3,601
Rape-seed ,,	985	806	29,854	20,988
Other Sorts ,,	813	344	20,958	7,396
TURPENTINE Cwts.	60,286	70,413	119,007	157,791
SOAP STOCK ,,	4,520	2,673	3,148	1,745

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of September. 1907.	QUANTITIES. Month of September. 1906.	VALUE. Month of September. 1907.	VALUE. Month of September. 1906.
TALLOW AND STEARINE:			£	£
From France Cwts.	4,449	3,910	7,512	6,749
,, U.S.A. .. ,,	22,867	48,466	34,430	68,286
,, Argentine Republic ,,	14,226	20,982	24,606	33,270
,, Australia ,,	30,106	37,664	50,042	56,337
,, New Zealand ,,	32,554	25,268	53,890	38,632
,, Other Countries ,,	18,298	5,994	30,029	9,257
Total... ,,	122,500	142,284	200,509	212,531
GUM:				
ARABIC ....Cwts.	8,550	6,562	14,361	9,490
LAC-DYE, SEEDLAC, SHELLAC, and STICKLAC ..Cwts.	10,516	7,645	90,437	71,095
ROSIN ... ...Cwts.	101,890	165,182	56,276	87,847

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during September, 1907, as compared with September, 1906:—

ARTICLES.	QUANTITIES. Month of September. 1907.	QUANTITIES. Month of September. 1906.	VALUE. Month of September. 1907.	VALUE. Month of September. 1906.
GREASE, TALLOW, AND ANIMAL FAT ....Cwts.	60,607	67,093	£ 86,118	£ 89,406
OILS, Refined:				
Cocoanut - - Cwts.	638	1,960	1,164	3,227
Cottonseed - - Tons	2,309	1,452	66,988	31,462
Olive - - Tuns	37	39	4,056	2,404
Palm - - Cwts.	1,202	1,548	1,761	2,035
Total. Value £	—	—	73,969	39,128
OILS:				
Cocoanut, Unrefined Cwts.	2,067	1,523	3,610	2,317
Olive ,, ,, Tuns	—	—	—	—
Palm ,, ,, Cwts.	1,040	10	1,607	13
OIL, SEED:				
To Germany ....Tons	191	49	5,536	1,209
,, Netherlands ,,	11	2	223	39
,, Belgium .... ,,	201	45	5,386	1,002
,, Austria-Hung. ,,	13	2	318	37
,, Egypt .... ,,	176	168	4,398	3,718
,, Brazil .... ,,	197	240	5,140	5,493
,, British India ,,	86	75	2,252	1,657
,, Straits Sts. ,,	22	33	616	901
,, Ceylon .... ,,	4	11	130	238
,, Australia .. ,,	287	447	8,379	10,940
,, Canada .... ,,	154	184	3,643	3,639
,, Other Co'tries ,,	1,074	1,331	30,794	32,976
Cottonseed Oil, Unrefined .....Tons	—	17	—	315
Linseed Oil:				
Pure ..... ,,	1,646	2,046	44,626	48,834
Not Pure ..... ,,	234	234	5,778	5,201
Rapeseed Oil .. ,,	414	224	13,168	6,073
Other Seed Oils ,,	122	66	3,243	1,426
Total .... ,,	2,416	2,587	66,815	61,849
SOAP STOCK Cwts.	2,151	1,038	3,378	1,045

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THE NEW AUSTRALIAN TARIFF.

(*Concluded from p. 324*).

Tariff Items.	Old Rates. (British and Foreign Goods).	New Rates. General Tariff.	New Rates. Tariff on Goods the Produce or Manufacture of the United Kingdom.
Dry gums, shellac, sandarac and mastic	Free	Free	Free
Pestles and mortars—Agate ..	Free	Free	Free
Acetic acid, extract, or essence of vinegar	6d.	6d.	6d.
(*c*) Solutions, extracts, or essences containing more than 6%, but not more than 30% of absolute acetic acid per gal.	2s. 6d.	3s.9d.	3s.9d.
(*d*) Solutions, extracts, or essences, containing more than 30% of absolute acetic acid, for every extra 10% or part thereof.. .. per gal.	10d.	1s.3d.	1s.3d.
(*e*) Acetic acid in crystals or powdered form .. ad val.	Not tariffed	15%	15%
Acids, viz.—Muriatic, nitric and sulphuric .. .. ad val.	15%	15%	15%
Carbonate of ammonia per cwt.	5s.	5s.	5s.
Carbonic acid gas .. per lb.	Not tariffed	2d.	2d.
Carbide of calcium	Free	10%	Free
Drugs and chemicals, viz.—			
(*a*) Salicylic and boric acids and other food preservatives n.e.i.; salicylate of soda; sulphites and bisulphites of potassium; bisulphite of sodium, calcium, and magnesium; and foaming powders and liquids .. ad val.	20%	25%	20%
Malto-peptone yeast food, yeast food preservatives, yeast nourishment, quillaya bark, saponarias, glycerhizin and its compounds .. .. ad val.	Not tariffed	25%	20%
(*b*) Saccharin and other similar substitutes for sugar, and substances capable of conversion into such substitutes for sugar; when imported for medicinal purposes only, in accordance with departmental by-law, in packages of not less than 11 lb. weight .. per lb.	Not tariffed	30s.	30s
Cresylic acid; crude creosote oil and tar oil; saponaceous mixture of creosote; carbolic acid per gal.	Coal tar preparations free.	6d.	6d.
Naphthaline .. .. ad. val.	In fancy bouquet form for vases, 20% ad val.	25%	25%
Cyanide of potassium	Free	Free	Free
Voltoids of sal-ammoniac	15% ad val.	Free	Free
Insecticides, sheep washes and disinfectants, n.e.i...	Free	Free	Free
Thiosulphates (hydrosulphites), and hydrosulphites containing zinc sulphite and formaldeheyde	Not tariffed	Free	Free
Chemical compounds and simple drugs		Free	Free
Bacteriological products and serum, as prescribed by departmental by-laws	Free	Free	Free
Carbonate and bicarbonate of soda	Free	Free	Free
Tartaric acid, cream of tartar, and citric acid	Free	5%	Free
Essential oils, non-spirituous, n.e.i.	Free	Free	Free
Perfumery; including perfumed ammonia; camphor (in tablets); toilet preparations not containing spirit (perfumed or not); cachous; skin foods; refined lanoline; refined glycerine and vaseline; and perfumed petroleum jelly .. .. ad val.	20%	35%	25%
Unrefined glycerine and unrefined lanoline	Free	Free	Free
Essential oils, and fat containing extract of flowers used in making perfumes .. ad val.	Essential oils, non-spirituous, free, other essential oils, 20% ad val.	20%	20%
Sulphuric ether, and other ethers n.e.i., non-spirituous, or containing not more than 5% of proof spirit	Free	Free	Free
Soda crystals .. .. per cwt.	1s.	1s.	1s.
Division XII.			
Rubber and rubber manufactures, viz.—			
Indiarubber, crude or powdered; rubber waste; hard rubber, in sheets; rubber thread; boot and apparel elastics; masticated rubber; indiarubber syringes, enemas, injection bottles, urinals	Free	Free	Free
Division XIII.			
Printing and stencilling inks, n.e.i. per lb. or ad val.	25%	6½d. or 30%*	6d. or 25%*
News printing ink, invoiced at under 3d. per lb., and in packages of not less than 1 cwt. .. .. .. ad val.	25%	30%	25%
Writing ink and ink powders, ad val.	25%	30%	25%
Division XVI.			
Filters of all kinds and materials, ad val.	15%	15%	15%
Division XVI.			
Explosives, viz.—			
(*a*) Cartridges, n.e.i., ad val.	Free	30%	20%
(*b*) Fireworks .. .. ad val.	20%	35%	25%
(*c*) Fuse, n.e.i., per coil of 24 feet or less, and in proportion for any greater quantity .. .. per coil	Free	1½d.	1d.
(*d*) Powder, sporting, per lb.	Free	4½d.	4d.
(*e*) Wads for cartridges, ad val.	Free	25%	20%
(*f*) Caps, percussion	Free	5%	Free
(*g*) Cartridges, military.. ..	Free	5%	Free
(*h*) Detonators	Free	5%	Free
(*i*) Cartridge cases, empty, capped, or uncapped.. ..	Free	5%	Free
(*j*) Fuse cotton	Free	5%	Free
(*k*) Fuses, electrical	Free	5%	Free
(*l*) N.E.I.	Free	5%	Free

* Whichever rate returns the higher duty.

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Tariff Items	Old Rates. (British and Foreign Goods.)	New Rates. General Rates.	New Rates. Duty on Goods the Produce or Manufacture of the United Kingdom.
Cotton, asbestos, and other packings; including sheet asbestos, yarn and cord, ad val.	Packings in rope form, 20%	20%	20%
Asbestos pipe and boiler covering; asbestos mattresses for boilers; asbestos millboards, ad val.	Not tariffed	20%	20%
Inks and stains for leather, ad val.	Not tariffed	20%	20%
Articles, n.e.i., of celluloid, xylonite, bone, ivory, pulp, papier-maché, indurated fibre, or asbestos .. .. ad val.	Not tariffed	25%	25%
Scientific instruments and apparatus (and materials for scientific purposes) for use in universities, colleges, schools, or public hospitals under departmental by-laws	Free	Free	Free
Scientific instruments and apparatus, viz.			
(*a*) Instruments for measuring the density of liquids, solids, and gases; including hydrometers, lactometers, saccharometers, salimometers, and barkometers	Not tariffed	Free	Free
(*b*) Barographs; calorimeters; cathetometers; dividing engines for graduating bars, tubes, and circles; kymographs, and time markers; dial micrometers; microtomes; pyrometers; spherometers; thermographs; thermostats; thermoregulators; microscopical, mineralogical, and blow pipe cabinets (fitted); mercury vacuum pumps; vacuum gauges, viscosimeters, vacuum ovens for laboratories; drawing, mathematical, and surveying instruments	Not tariffed	Free	Free
(*c*) Bacteriological apparatus; including counting apparatus, culture dishes, flasks and tubes, slide cabinets and trays, straining dishes and plates, stains, incubators	Not tariffed	Free	Free
(*d*) Scientific instruments for measuring absorption, dispersion, reflection, refraction, and rotation of light, and for colour analysis and colour comparison	Not tariffed	Free	Free
(*e*) Apparatus for the testing and analysis of milk, wine, and other agricultural products, as prescribed by departmental by-laws ..	Not tariffed	Free	Free
Outside packages, n.e.i., in which goods other than those subject to an ad valorem duty are ordinarily imported, when containing such goods	Free	Free	Free

THE RECENT FIRE AT A CHEMICAL WAREHOUSE.

THE fire which occurred at 111, Queen Victoria-street, E.C., on September 24, on the premises of Messrs. Parke, Davis and Co., chemical manufacturers and manufacturing chemists, was the subject of an inquest held by Dr. F. J. Waldo, J.P., the City Coroner, on Friday, at the Golden-lane Coroner's Court. Several firms in the adjoining premises were involved in the outbreak, which would have been much more serious but for the fact that the majority of Messrs. Parke, Davis and Co.'s stock had been removed to new premises. The damage to the various firms concerned is estimated at £6,000.

Mr. W. H. Newton, solicitor, represented Messrs. Parke, Davis and Co., and Col. Fox, chief of the London Salvage Corps, was present in court.

The Coroner, in opening the inquiry, said he was pleased to say the effect of holding inquests into fires in the City of London —the only place in Great Britain—was a distinct diminution in the number and also the severity. At the request of the Coroner, the manager of Messrs. Parke, Davis and Co. then conducted the jury to the scene of the fire, and on returning, Police-constable Phillips said that at 12.30 a.m. on the day of the fire, he noticed a glare in the sky, and immediately telephoned for the fire brigade, who arrived in three minutes. By that time the building was a mass of flame, burning with great fierceness.—District Officer William Oliver Ethernden, of the Carmelite-street station of the London Fire Brigade, said in all 2 horsed escapes, 6 long ladders, 39 steamers, and 233 men were engaged in the work of suppressing the outbreak. They managed to get up the staircase to the third floor, which seemed to be the seat of the fire, but it was not until 2.30 that they got it under, it having such a hold. He was of opinion that a fire had been burning some hours. He found a quantity of patent medicines stored in the place.

Supt. Chas. Allison, of the London Salvage Corps, said the premises were fully insured. He thought it possible that the fire had been smouldering for some hours. He believed in automatic fire alarms, and was of opinion that had one been in use on the premises they would have got to know of the fire much sooner. He noticed no particular smell such as might arise from drugs.

Thos. Blackwell, foreman of the sample department of Messrs. Parke, Davis and Co., said he left the premises at 7.25 p.m. with the foreman packer, Geo. Martin, they having been the only ones on the premises for some hours. All was then safe, and the electric light had been turned off.

Geo. Martin, the packer, corroborated, and in answer to the Coroner said he did not think any chemicals had caught alight, in fact there were no chemicals.

The Coroner: But there were medicines, are they not chemicals? —Witness: Not what you call chemicals.—The Coroner: But I though all medicines were a form of chemicals. Don't you think that medicines or chemicals could have caused it if they caught fire?—Witness: I suppose they could.—The Coroner: Some medicines are very strong, and contain a great deal of vegetable matter.

Mr. Fredk. Melton Fisk, European manager to Messrs. Parke, Davis and Co., said they had a very extensive business in this country. They were manufacturing chemists, but their chemical works were 15 miles out of London. The premises in Queen Victoria-street were insured for £26,000. He had never had anything to do with automatic fire alarms, and had no idea whether they were of any service. Electric lighting was installed throughout, and he was of opinion that a short circuit had occurred between the ceiling of the second and the floor of the third floors, many hours before the place was closed, smouldering until the outbreak. The stock on the third floor comprised medicine chests, pills, tabloids, etc.—The Coroner: You had nothing inflammable such as phosphorus? —Witness: No.

Col. Chas Fox, chief officer of the London Salvage Corps, said there was no trace of what had fired, although he was of opinion that whatever it was had smouldered for hours. He was of opinion that the fire was not caused by the electric light.—The Coroner: Do your think that automatic fire alarms would be of service?—Witness: I certainly do. He had seen both drug and chemical fires, and could hardly connect this one with such as that.

The Coroner said that when inquiring into the great Barbican fire, in 1902, the jury recommended that the authorities should offer a reward for the best fire alarm to be affixed in all warehouses, but nothing had been done.—The jury returned a verdict that the cause of the fire was unknown.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Coke Ovens. R. Fabry. 21,593. September 30.
Treatment of Copper Ores. King's Norton Metal Co., Ltd., H. M. Smith and H. W. Brownsdon. 21,595. September 30.
Self-acting Cask Stand. S. S. Abbott. 21,599. September 30.
Superheating Steam. H. Cruse. 21,608. September 30.
Raising Liquids. G. Plath. 21,617. September 30.
Injectors. R. Wood. 21,628. September 30.
Artificial Stone. A. A. Lockwood. 21,637. September 30.
Sand Filters. J. M. K. Pennink. 21,647. September 30.
Distilling Glycerine. F. J. Wood. 21,658. September 30.
Disazo Dyes. R. B. Ransford. 21,668. September 30.
Hydrogen, Oxyacetylene and like Blowpipes. W. M. Jackson. 21,678. October 1.
Suction Gas Producers. J. J. Bowmer. 21,682. October 1.
Breaking up Lumps of Pulverulent or Granular Substances. J. Simpson. 21,690. October 1.
Metal Sulphates from Metal Sulphides. O. Meurer. 21,725. October 1.
Vulcanised Bitumen. S. Paterson. 21,742. October 1.
Indiarubber Manufacture. A. Heinemann. 21,772. October 2.
Nitrogen Compounds. A. R. Frank and M. Voight. 21,786. October 2.
Electrolytic Processes. W. G. Heys. 21,834. October 3.
Gas Producers. Mason's Gas Power Company, Ltd., and T. Wright. 21,838. October 3.
Ammonia from Ammoniacal Liquor. H. P. Hird. 21,892. October 4.
Camphor. A. Friedl, C. Weizmann, and The Clayton Aniline Company, Ltd. 21,946. Oct. 4.
Mechanical Roasting Furnace. R. von Zebewski. 21,961. October 4
Rubber Substitutes. T. B. Collins. 21,967. October 5.
Bunsen Gas Burners. E. Rund. 21,995. October 5.
Power Gas Plant. C. W. Whitfield. 21,996. October 5.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Liquefying Air and Winning Oxygen. Mewes. 21,780.
Zinc Oxide. Simm and Simm. 21,787.
Reducing Ores. Ruthenbury. 21,876.
Smoke-consuming Devices. Weatherford. 22,229.
Portable Crucible Furnaces. Harvey. 23,384.
Jointing Pipes. Keep. 24,938.
Sulphate of Ammonia Saturators. Williams and Fenner. 25,547.
Cement. Brooks. 25,857.
Alum Manufacture. Strohbach. 28,581.

1907.

Diphenylamine and Derivatives thereof. Bloxam (Akt.-Ges. für Anilin Fabrikation). 2,766.
Bleaching Glue. Johnson (Badische Anilin and Soda Fabrik). 4,049.
Colouring Matters of the Thio-indigo Group. Johnson (Kalle and Iev. Akt.-Ges.). 11,609.
Camphor. Verley, Urbain and Feige. 14,550.
Gallocyanines. Farbwerke vorm. L. Durand, Huguenin, and Co. 19,002.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Process for the Treatment of Casein and other Albuminous Substances. R. Desgeorge, 5, Place de la Charité, Lyons, and Francois Lebriel, of 11, Rue Bouchet, Villeurbanne (Rhone). British Patent, 23,789. October 25, 1906.

This invention relates to the treatment of certain substances having an albuminous base, for instance caseine, for obtaining non-inflammable products in imitation of horn, shell, ivory, celluloid and the like.

Either the dry casein of commerce or fresh casein, milk, or the like may be used. To the casein is added a solution of chloride of sodium the strength of which varies according to the degree of transparency it is desired to obtain, for example, 10 parts by weight of chloride of sodium to 100 parts dry casein, with the addition of water to the extent of five times the weight of the casein, produces a good result, but with moister materials 30 to 40% of chloride may be used. The whole is then placed in a vessel into which are inserted metal electrodes of variable nature according to the results required. If, for example, copper electrodes are used, the casein assumes a clear green colour after the passage of the current for some moments, owing to its combination with the copper freed and oxidised by the electrolytic action, and if the operation is prolonged the casein will assume a darker and darker green colour owing to the greater absorption of copper, and will become completely insoluble. The voltage of the current varies according to the number of electrodes, but with electrodes spaced 20 to 25 centimeters apart a tension of 10 to 12 volts is sufficient. The duration of the operation also varies according to the temperature, but when the operation is well conducted 10 minutes is sufficient.

If lead or aluminium electrodes are used the casein will combine with the oxide of the respective metal and become insoluble, but it will not assume any colour; in which case it may be coloured by means of aniline dyes, if desired.

Method of Charging Electric Furnaces for Producing Carbide from Lime and Carbon. A. Peterson, Alby, Sweden. British Patent No. 5,657. March 8, 1907.

The inventor claims:—(1.) The process of continuously producing carbide from lime, which consists in introducing the lime and the carbon separately, and as loose pieces in an electric furnace, in such a manner that separate upright columns of the said carbide-forming materials are maintained in the furnace in close contact with each other, and leading an electric current through the column of carbon for heating the same to a point where the layers of the said carbon and lime columns, that are in direct contact with each other, react to form carbide. (2.) The process of continuously producing carbide from lime and carbon, which consists in introducing the said carbide-forming materials separately, and as loose pieces in an electric furnace in such a manner that the carbon always forms a central column in the furnace, and the lime a column closely surrounding the column of carbon, and in direct contact with the same, and leading an electric current through the column of carbon for heating the same to a point where the layers of the said carbon and lime columns that are in direct contact with each other react to form carbide.

Process for the Manufacture of Hydrated Alumino-silicates or Artificial Zeolites. Dr. R. Gans, 12, Parkstrasse Pankow, near Berlin. British Patent No. 8,382. April 9, 1907.

The inventor claims:—(1.) The herein described process for the manufacture of hydrated alumino-silicates or zeolites in a crystalline form, which consists in fusing together an alumina-mineral, alumina-silicate or aluminate, and an alkali or alkali-carbonate with a sufficient quantity of an inorganic salt, preferably a borate, to ensure that, on the extraction of the melt with water, there remain only crystalline hydrated alumino-silicates. (2.) The process for the manufacture of hydrated alumino-silicates or artificial zeolites in a crystalline form, which consists in melting together kaolin, an alkali carbonate, and borax in the proportions described, and subsequently extracting the melt with water.

Process of Forming Monobasic Organic Peroxides. A. C. Houghton, Syracuse, Orondaga, New York. British Patent No. 9,725. April 26, 1907.

There are many specific compounds of this class to the manufacture of which this process is applicable, of which compounds benzoyl succinyl peroxide, covered in Patent No. 20,680 of 1906, may be taken as a specific case. In general terms the process consists in the treatment of a monobasic aromatic peracid with the anhydride of a dibasic aliphatic acid and the removal of the monobasic organic peroxide formed, by filtration or extraction with a suitable solvent; the process being a general application of the process described in my prior Specification, No. 20,680 of 1906, which describes the formation of the specific compound benzoyl succinyl peroxide, and in which 100 c.c. of a 10% watery solution of benzoic peracid, preferably acidified with acetic acid is agitated with five (5) grammes of succinic anhydride until the reaction is complete, when the benzoyl succinyl peroxide is removed by filtration. The reaction which takes place may be expressed as follows:—$C_7H_6O_3 + C_4H_4O_3 = C_{11}H_{10}O_6$. The compounds formed by this process are characterised by the intense germicidal action of their aqueous solutions. The specific compound benzoyl succinyl peroxide has the formula $C_{11}H_{10}O_6$, and it is further characterised by the following properties:—It is a colourless crystalline body, very soluble in acetone, soluble in acetic-ether, chloroform and alcohol; moderately soluble in benzene; slightly soluble in acetic acid; insoluble in ligroin. It has a melting-point of about 92° C. and decomposes at 96° C.

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IMPORTS OF METALS AND MINERALS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of metals and minerals imported during the month of September, 1907, as compared with September, 1906:—

ARTICLES.	QUANTITIES. Month of September. 1907.	QUANTITIES. Month of September. 1906.	VALUE. Month of September. 1907.	VALUE. Month of September. 1906.
			£	£
COPPER (regulus and precipitate):				
From Germany ..Tons	—	24	—	740
„ Portugal ... „	65	24	2,725	1,356
„ Spain ..... „	1,066	1,945	72,842	135,330
„ U.S.A. ..... „	213	824	7,964	24,710
„ Peru ..... „	203	289	11,552	8,250
„ Chile ..... „	683	432	22,300	12,992
„ Other Countries . „	4,165	2,197	160,856	72,779
Total ... „	6,395	5,753	278,299	256,157
COPPER ORE:				
From Spain .....Tons	567	641	6,463	3,083
„ U.S.A. ..... „	19	33	190	297
„ Chile ..... „	1,999	4,288	29,828	43,816
„ Cape of G. Hope .... „	1,902	1,820	22,215	27,300
„ Australia ... „	1,126	98	17,033	1,795
„ Newfoundland ..... „	—	—	—	—
„ Other Countries . „	1,640	2,135	37,595	25,610
Total ... „	7,253	9,015	113,324	101,901
PYRITES of Iron and Copper .....Tons	55,367	54,531	92,462	88,943
*SILVER ORE ... Value £.	—	—	120,718	248,837
TIN ORE:				
From S.America, Tons	106	917	7,920	64,672
„ Other Countries . „	432	347	25,742	23,627
Total .. „	538	1,264	33,662	88,299
LEAD (pig and sheet):				
From Germany ..Tons	1	1,285	11	22,435
„ Spain ..... „	7,171	8,586	138,392	148,477
„ Greece ..... „	—	—	—	—
„ U.S.A. ..... „	2,436	1,322	47,474	21,885
„ Australia ... „	2,661	3,603	56,003	60,912
„ Other Countries . „	1,409	2,202	28,034	39,581
Total ... „	13,678	16,998	269,914	293,290
QUICKSILVER .....Lbs.	16,000	25,500	1,452	2,370
TIN, in blocks, ingots, bars, or slabs:				
†From Straits Settlements .....Tons	2,900	2,254	480,472	414,417
„ Australia ... „	446	473	74,795	86,873
„ Other Countries . „	83	328	15,634	55,763
Total ... „	3,429	3,505	570,901	557,053
ZINC, crude, in cake Tons	6,633	7,090	147,696	181,995

* Silver Ore includes the value of the Silver in imported Argentiferous Ores and Metals. † Including Federated Malay States.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Oct. 16.
120,000	1	1	Bell's Asbestos ... ord.	40/-
	Stock	100	Borax Consol. 4½% deb. stock red	109
80,000	10	10	Do. ... pref.	11⅛ 11¾
1,356,477	1	1	Bradford Dyers ... ord.	24/1½
1,500,000	1	1	Do. ... 5% c.p.	21/3
35,000	10	10	British Dyewood ... „	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... „	41/9
10,000	10	10	Do. ... 6% c.p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	5⅜ 5 7/16
82,678	10	10	Do. 7% pref.	17 17¼
96,000	5	5	Bryant and May ... c.p.	12½ 12¾
40.000	10	10	Buxton Lime Firms ord.	6 1/16 6 9/16
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. „	20/-
450,000	1	1	Castner Kellner ... „	24/9 25/3
16,000	5	5	Clayton Aniline ... „	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J., and Sons c.p.	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/6 28/-
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94¾
	10	10	India Rubber Co. ... „	14½ 15½
	5	5	Lagunas Nitrate ... „	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co. „	8
	5	5	Lautaro Nitrate ... „	11¾ 12¼
200,000	10	10	Lever Bros. ... 5% c.p.	10 1/32
400,000	10	10	Manchester Ship Canal ord.	20/9 21/3
400,000	10	10	Do. per 5% pref.	30/- 30/3
120,000	1	1	Mandelberg ... ord	31/6 32/6
185,150	1	1	Mason and Barry ... „	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... „	10¾ 11¼
228,540	10	10	Nobel Dynamite Trust „	16½
	10	10	Do. share warrants	16⅜
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	37/9
	1		Pears, A. and F. ... „	1 7/16 1 9/16
70,000	10	10	Pease and Partners ... „	12 12¼
37,500	16	16	Price's Patent Candle „	33
130,000	1	17/	Pumpherston Oil, Ltd. „	12 11/16
10,000	10	10	Do. 6% c.p.	13¼
325,000	5	5	Rio Tinto ... ... ord.	69
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
239,479	1	14/2	Sadler and Co. ... ord	4/-
200,000	4	4	Salt Union ... ... „	16/-
100,000	6	6	Do. ... 7% n.c.p.	4⅜ 4½
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... „	1 1¼
	1	1	Schibaieff Petroleum „	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas „	120½
45,000	10	10	Steiner, F. and Co. 5% c.p.	9¼ 9⅜
625,000	2	2	Tharsis Sulphur & Copper „	5½ 6
289,343	10	10	United Alkali ... ord.	77/6
282,524	10	10	Do. ... 7% pref.	11½
80,000	1	1	United Indigo & Chemical ord	2/3 2/9
66,666	5	5	Willans and Robinson „	¾ 1¼
210,000	1	1	Woolcombers ... 7% c.p.	19/9 20/-
113,202	4	4	Young's Paraffin ... ord.	71/9

THE RUSSIAN CHEMICAL MARKETS.

AN Odessa advice states that business in chemicals has declined considerably during the last few weeks. There has been a sharp advance in the price of Berthollet salt; the syndicate that handles the salt has stopped selling. The quotations of other chemicals on the market present no noteworthy feature.

The St. Petersburg market has displayed no special tendency during the month of September, except that a rise in the value of sulphate of alumina has taken place, both for pure and ordinary.

A report on the situation of chemicals at St. Petersburg, dated October 1, stated that there had been no material change during the preceding fortnight, and information from Warsaw, dated October 2, and covering the same period, is to the same effect.

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NEW YORK PRICES CURRENT.

Sept. 30, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8¼
„ Picric	„	0 82
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7¾
„ „ „ Continental	„	0 7¼
Ammonia, Carbonate, lump	„	0 7¾
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 6
Potassium, Bichromate	„	0 8¼
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7¼
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

Personal.—The degree of Doctor of Science has been conferred upon Dr. Ludwig Mond by the University of Oxford.

New Chemical Works at Stafford.—At a recent meeting of the Stafford Rural District Council, plans were submitted by Messrs. Chance and Hunt, chemical manufacturers, Oldbury, relating to works buildings which the firm are erecting on land just outside Stafford, for the purpose of the pumping and treatment of brine.

Business Changes.—Messrs. Wilkins, Campbell and Co., of 24 and 25, Great Tower-street, E.C., inform us that they are adding to their business a department specially devoted to the manufacture of fine chemicals. This new department will be conducted by Mr. W. H. Everson, who has had a long experience in the trade.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, September 30, 1907.

(Rate of Exchange, $4.85 = £1.)

Nitrate of soda is quoted at $2.35. for prompt or future. Sulphate of ammonia is offered at $3.07½. to $3.10. per 100 lbs. Grey muriate, for galvanising, is steady, at 6c. to 6¼c. per lb., while white, for electrical purposes, is offered down to 5½c. per lb., on account of over-supply. Lump carbonate of ammonia is steady at 7⅞c. to 8c. per lb., and powdered is nominally 1c. per pound more. Lump salammoniac, good white seconds, is 9¼c. per lb. Sulphate of copper is weak at 5⅞c. to 6c. per lb. White powdered arsenic is dull at 7c. to 7¼c. per lb., and red Saxony arsenic steady at 7¼c. per lb. Bleaching powders are slow of sale, from $1.20. to $1.25. per 100 lbs. Alkali is quoted 92½c. per 100 lbs., for 58% light, f.o.r., maker's works. Caustic soda, 74%, is quoted at $2.05. per 100 lbs., same conditions. Carbonate of potash, calcined 80-85%, is 3¾c. per lb., and hydrated 4¼c. per lb. Chlorate of potash is 9c. per lb. for powdered, and 8¼c. per lb. for crystals, f.o.r. works; while soda is 8¼c. per lb. Bichromates are steady, at 7¼c. for soda, and 8¾c. per lb. for potash. Prussiate of soda is dull at 9¼c. per lb., while potash is quoted at 15⅞c. to 16c. per lb. The antimony market has a strong tendency, and oxide white is quoted to-day at 10½c. per lb., while needle lump is 7¼c. to 8c. per lb. Oxalic acid is firm at 8c. to 8⅛c. per lb.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols steady, with values given at 8½d. to 9d. for 90's, and 9d. for 50-90's, casks included. Crude tar, 15s. to 19s. 6d. per ton, Thames; 1¾d. to 1⅞d. per gallon, delivered; refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 25s. to 26s., f.o.b.; Gas Company, 27s.; East Coast, 24s. 9d. to 25s.; West Coast, 24s. Refined naphthalene, £6. 10s. to £10. 10s., packages included. Toluol, 90%, 10d. to 10½d., casks included. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5⅝d.; 60%, 1s. 8d.; 75%, 1s. 11½d. to 2s., casks included. Crystals, 39-40%, 5⅝d.; 34-35%, 5d. Cresylic, 95%, 1s. 1d. to 1s. 1¼d. Anthracene, 40 to 45 per cent. A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia steady. Nearest values are:—Beckton, October-December, £12. 5s.; January-April, £12. 7s. 6d.; Beckton terms, £11. 12s. 6d. to £11. 15s.. London, £11. 15s. to £11. 16s. 3d.; Hull, £11. 16s. 3d. to £11. 17s. 6d.; Liverpool, £11. 18s. 9d. to £12.; Manchester, £11. 17s. 6d. to £11. 18s. 9d.; Leith, £12. 3s. 9d.; forward, £12. 5s. Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d. Liverpool ordinary, 11s. 3d., and refined, 11s. 4½d.

THE LONDON METAL MARKETS.

Friday.

Copper: Standard brands, £60. to £60. 5s. cash, and £58. 15s. to £59. three months. Tin: G.M. quality, £137. 5s. to £137. 15s. cash, and £135. 10s. to £136. three months; English, £140.; soft foreign, prompt, £19., and November, £18. 10s.; December, £18.; January, £17. 12s. 6d.; English, £19. 10s. Spelter, ordinary brands, prompt, £21. 15s.; December, £21. 10s.; January, £21. 7s. 6d., ex ship; hard, £19., f.o.b. Antimony, £42. to £44.; ore, £14. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 6d. Nickel, 1s. 10d. per lb. Aluminium, £140. to £145. Wolfram, 40s. Pig-iron closing prices: Cleveland, 53s. 10½d. cash, and 53s. 1½d. one month.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

The general demand for chemicals continues fairly active both for home and export trade, and prices all round keep firm for present as well as future delivery. A good deal of business has been already concluded for deliveries over 1908. In the alkali trade values are firmly upheld by the higher costs of raw materials, but for some reason, contrary to the general tendency the quotation for soda crystals has been reduced, and now stands at 57s. per ton (in bags), f.o.r. Alkali, 58%, is unchanged at £4. 10s., f.o.r. Caustic soda, 70%, £10. 5s., f.o.b. Saltcake in bulk, 42s. 6d. per ton. Bleaching powder is steady, at £4. 7s. 6d. f.o.r. and f.o.b. Chlorates, 3½d. per lb. Sulphur, £4. 15s. per ton. Prices are very firm for carbonate of potash, 90%, at £19. and caustic potash, 87-90%, at £25. 10s., for prompt. Acetate of lime, 80%, is steady at £12. 10s., c.i.f. Acetic acid, 60%, £19. 10s. White sugar of lead, £30. to £31.; brown, £26. 10s. Nitrate of lead, £31. 10s. Sulphate of copper nominally £22. 15s., but price has a weaker tendency. Prussiates are firm in price, and business is active—soda at 3¼d., and potash 5⅝d. to 6d. Arsenic is very firm at £32. Ammonia and ammonia salts are firm in price for all descriptions.

LIVERPOOL OIL AND COLOUR MARKET.

Thursday.

OILS.—Palm oil firm, with a fair business reported, sales including hard oils for November delivery at £27. 5s., and for October-November and December-January delivery at £27. 10s.;

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soft oils on spot, £28. 2s. 6d., November-December delivery £28. 5s., and December-January delivery £28. 10s.; Old Calabar, on spot, £28. 5s.; Qua Eboe, for October-November, £29., oil in transit. Linseed oil quiet, at 27s. to 27s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil quiet, at 28s. to 29s. per cwt. for Liverpool refined in export barrels. Tallow firm, at 32s. 3d. per cwt., c.i.f. terms, for South American beef. Turpentine firmer, at 39s. 9d. per cwt. for spot parcels. Petroleum in moderate request, at 6¾d. for Russian and Roumanian, and 7¼d. to 8¼d. per gallon for American refined oils. Petroleum spirit steady at 1s. 0½d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s., white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; venetian red, lump, 7s. 6d., powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d., China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d. per lb., Brunswick, 28s. to 34s. per cwt.

LIVERPOOL DRYSALTERIES.

Thursday.

Montreal potashes quiet, but well held at 35s. 9d. per cwt. Pearl ash nominal. Logwood steady. Cutch quiet. Gum copal: Gold Coast sold at auction, 52s. to 74s. per cwt. Castor oil firm in all positions at 3¾d. for good seconds Calcutta on to January next, and 3¾d. on spot; French offering at 3½d. for first pressure, and 3¼d. for second pressure. Gambier: Block, 21s. 6d. to 22s. 6d. per cwt. on spot, October-November shipment, 19s. 6d., and December-January shipment, 19s. 3d. Cubes, 30s. per cwt., on spot, 28s. for September-October shipment, and 27s. 7½d. per cwt. for October-November and November-December shipment. Shellac steady, at 145s. to 147s. 6d. for fair TN orange, on spot. Glucose firm: American liquid, 43°, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 3d., and for October-December, 9s. 9d., c.i.f., for shipment. American powdered starch, 10s. 9d. on spot, and 10s. 3d., c.i.f., for shipment. Pearl, 10s. 3d. on spot, and 9s. 9d., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 86s. to 87s.; 95%, 84s. to 85s. Tartaric acid: English, 11½d. on spot, and foreign, 11d. Citric acid: English, 1s. 9d. to 1s. 9½d.; foreign, 1s. 9½d.

HULL PAINT, OIL, AND COLOUR REPORT.

Thursday.

OILS.—Linseed oil during the week advanced upon last prices, but has since fallen rapidly, closing about £1. per ton lower upon the highest quotation. Refined cotton oil has also declined by 15s. to 10s. per ton, closing quiet. Turpentine has improved, closing firm and dearer. Amongst the principal imports here to date, as against the same time a year ago, are:—Wheat, 3,254,705 qrs., against 3,185,014 qrs.; flour, 165,905 cwts., against 284,927 cwts.; linseed, 636,573 qrs., against 472,794 qrs.; rapeseed, 99,454 qrs., against 89,472 qrs.; cottonseed, Egyptian, 133,752 tons, against 120,527 tons, other kinds, 142,606 tons; against 105,054 tons; oilcake, 20,663 tons; against 32,290 tons; hemp, 102,904 cwts., against 129,865 cwts.; olive oil, 3,663 tuns, against 3,193 tuns; tar, 12,633 barrels, against 10,605 barrels. Amongst the weekly imports are:—Margarine, 2,462 cwts.; lard, 4,576 cwts.; oilcake, 149 tons; colours, 3,237 packages; wool, 952,778 lbs. Exports:—Oil, 10,164 cwts.; colours, 2,874 packages; chemicals, 1,961 packages. Linseed oil closes quiet at 24s. 7½d., naked, spot; October-December, 23s. 10½d.; January-April, 22s. 9d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—15 tons Austria, 10 Belgium, 2 Denmark, 8 Germany, 2 Norway; total, 37 tons. Refined cotton oil quiet, 23s. 9d. spot, naked; October, 23s. 6d.; November-April, 22s. 7½d.; casks £1., and barrels £1. 7s. 6d. per ton more. Exports for the week:—25 tons Belgium, 3 Denmark, 5 France, 69 Germany, 64 Holland, 2 Norway, 3 Sweden; total, 171 tons. Cottonseed inactive, spot (old), £7. 2s. 6d., new, £7. 10s. paid, £7. 6s. 3d. to £7. 3s. 9d. on passage, October £7. 2s. 6d., November-January £7. 1s. 3d.; Bombay, October-November, £6. 2s. 6d. sellers, £5. 19s. 6d. buyers. Linseed, La Plata, 45s. 6d. accepted, September-October 45s. 9d., October-November 45s. 9d., December-January 43s. 6d., January-February 42s. 9d. accepted. Turpentine, 39s. 9d., November-December 40s. 6d., January-April 41s. 9d., May-June 40s. 9d. Rosins unchanged. Olive oil, Levant, £39. to £40. per tun. Castor oil unchanged. Cod oil, £16. to £19.

CAKES.—Linseed cakes very firm, some makes being 2s. 6d. per ton higher; cotton cakes, best makes scarce, and in improving demand.

TYNE CHEMICAL REPORT.

Thursday.

Market firm, with a steady demand. Caustic soda, 70%, £10. 5s. per ton, and 76-77%, £11. per ton. Soda crystals, locally, £3. to £3. 2s. 6d. per ton, gross weights. Bleaching powder steady, at £5. to £5. 5s. per ton. Sulphur firm, at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—For prompt loading the market is quiet and rather easier. To-day's quotations:—Best Northumbrian steam, 15s. 3d. to 15s. 9d. per ton; second qualities, 14s. 3d. to 14s. 9d. per ton; small coals, 10s. 6d. to 11s. per ton; best gas coals, 15s. to 16s. per ton; Durham bunker coals, 13s. 3d. to 14s. per ton; coking coals, 14s. 6d. to 15s. per ton; household coals, 16s. 6d. to 17s. per ton; gas coke, 20s. per ton; foundry coke, 23s. to 24s. per ton.

WEST OF SCOTLAND CHEMICALS.

Glasgow, Thursday.

The long continued stationary feeling in sulphate of ammonia, Leith deliveries, seems to have come to an end, the movement during the past week having quickened, and prices have gone up a little for prompt business. Forward dealing also follows the same tendency, and sales are reported up to £12. 5s., though this requires full confirmation. Sulphate of copper is still unsettled, and the general tendency has been downward, though with no great actual change. Good business continues in the ordinary heavy chemicals, both spot and deferred, and prices are firmly held. Caustic soda is steady at the recent advance, and forward inquiry is more active. Saltcake retains late improvement. Mineral oils and paraffins are all as before in values, with an increasing movement in the deliveries of burning oil and paraffin spirit.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 12s. 6d. to £4. 17s. 6d., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 4½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¾d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¼d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £5. 15s. to £6. 5s.; 885°, £6. 7s. 6d. to £7. 7s. 6d.; 890-895°, £7. 2s. 6d. to £8. 2s. 6d.; prussiate of potash, 5¾d. to 5¾d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £3. to £3. 2s. 6d.; sulphate of ammonia, £12. 3s. 9d. to £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £22. 10s., to £23., less 5% Liverpool, prompt.

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New Companies

British Cellulose Syndicate, Ltd.—Capital £12,000., in £1. shares. This syndicate has been formed to acquire any interests in inventions relating to the manufacture of artificial silk, to acquire the undertaking and all or any of the assets and liabilities of the Cellulose Products Syndicate, Ltd. (incorporated in 1907), etc. No initial public issue. The first directors are J. H. Hoyle, J. Williams, and E. J. Sampson. Remuneration, £250. per annum, divided.

C. Happach and Co., Ltd.—Capital £35,000., in £1. shares (10,000 preference). This company has been formed to carry on the business of brokers and refiners of, agents for and dealers in sugar, caramels, saccharum, and other similar materials or manufactured products and chemicals, commission merchants and agents, etc. No initial public issue. The first directors are C. Happach, H. Meyer, and A. Kahler.

Cropwell Gypsum Mines, Ltd.—Capital £10,000., in £1. shares. This company has been formed to acquire the business carried on at Cropwell Bishop, Notts., as the Snaith Plaster and Cement Co., Ltd., to search for, work and deal in gypsum, iron, coal, clay, earth and other minerals. No initial public issue. The first directors are E. Gerrish, E. J. L. Symonds, and D. W. Snaith. Qualification, £300. Registered office, Cropwell Bishop, Notts.

D.E.M.P. Syndicate, Ltd.—Capital £7,750., in 1s. shares. This syndicate has been formed to acquire the benefits and obligations of agreements between the Zinkgewinnungs-Gesellschaft m.b.h., of Berlin, of the one part, and G. Evans of the other part, whereby certain working rights with respect to the Rudolph Deposits at Beuthen, Upper Silesia, are conferred on the said G. Evans, with a view thereto to enter into an agreement with F. W. Macan and S. Peck, and to carry on the business of miners, etc. No initial public issue. The subscribers are to appoint the first directors. Qualification, 5,000 shares. Remuneration, £100. each per annum (chairman £150.). Registered office, 8, Laurence Pountney Hill, E.C.

Gardner and Sons, Ltd.—Capital £2,000., in £1. shares. This company has been formed to carry on the business of manufacturers of and dealers in asphalte, pitch, tar, oil, bricks, tiles, pipes, terra-cotta, stone, sand, lime, cement, timber, hardware and building requisites, etc. No initial public issue. Registered without articles of association. Registered office, 8, Princes-street, Westminster.

Industrial Spirit Supply Co., Ltd.—Capital £1,000., in £50. shares. This company has been formed to promote the sale and manufacture of spirits for industrial purposes, etc. No initial public issue. The number of directors is to be half the number of shares in the original capital for the time being issued. The holder of an original share bearing an odd number and the holder of the share bearing the next even number may appoint one of themselves as a director.

Java Rubber Plantations, Ltd.—Capital £35,000., in £1. shares. This company has been formed to acquire and work the rubber estate in Java known as the Soember Tengah Estate, and to adopt an agreement with the Rubber Estate Agency, Ltd. Minimum cash subscription, 19,500 shares. The first directors are F. Copeman, J. C. Tate, H. Wright, and J. W. Ramaer. Qualification, £200. Remuneration, £100. each per annum (chairman £150.). Registered office, 59, Eastcheap, E.C.

Lanadron Rubber Estates, Ltd.—Capital £320,000., in £1. shares. This company has been formed to acquire (1) about 1,581 acres of land at Muar, Johore, Malay Peninsula, to acquire the business of planters of rubber and other produce, carried on by the Lanadron Estates, Ltd., (2) about 7,200 acres of land, also at Muar, and the business carried on by the Jementah Rubber Co., Ltd., and (3) about 2,000 acres of land in the same locality, or a permit or right to select the same, belonging to F. Pears. Minimum cash subscription, £20,000. The first directors are F. Pears, F. W. Barker, C. W. Drabble, and T. Pears. Qualification, £250. Remuneration, £150. each per annum (£200. for the chairman). Registered office, 6, Lloyd's-avenue, Fenchurch-street, E.C.

Rubberite, Ltd.—Capital £100., in 5s. shares. This company has been formed to acquire and turn to account any interest in any patents, inventions, concessions, licences and the like relating to the manufacture of rubber, guttapercha, or caoutchouc, or any substitute therefor, etc. No initial public issue. Registered without articles of association.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls.		Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	or Glns.	Gallons.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending October 4.

Acetic Acid—

Holland,	19 brls.	Little
,,	130 cbys.	& Johnston
,,	10 blns.	W. H. Muller & Co.
,,	28	R. W. Greeff & Co.

Acetone—

Germany,	£400	Nobel's Exp. Co.
,,	667	F. A. Tye
U.S.A.,	35	L. & I. D. Jt. Co.
,,	849	F. A. Tye
,,	800	Nobel's Exp Co.

Alcohol (Methylic)—

U.S.A.,	1,000 gals.	H. G. Brown
Canada A.,	8,720	F. A. Tye

Alumina Sulphate—

Holland,	£46	Ohlenschlager Bros.

Ammonium Nitrate—

Germany,	£330	Petri Bros.

Barytes—

Belgium,	110 bgs.	Felton & Crepin
,,	250	Farmiloe & Sons
Holland,	197	L. Cartwright
,,	100	W. Harrison

Barytes—

Holland,	23 cks.	W. Harrison
,,	44	P. Jantzen
Belgium,	16	Felton & Crepin
Holland,	25	Perkins & Homer
,,	10	F. T. H. Nye
Belgium,	15	G. S. N. Co.
Germany,	42	O'Hara & Hoar
,,	69	Felton & Crepin
Italy,	30 pks.	J. Knill & Co.
Holland,	250 bgs.	Thames S. T. & L. Co.
Belgium,	77 cks.	O'Hara & Hoar.

Bleaching Powder—

France,	433 c.	Henderson, Craig & Co.
Germany,	1	L. & I. D. Jt. Co.

Calcium Carbide—

Sweden,	140 c.	Elephant C. Co.
,,	14	M. Dk. Co.

Camphor—

China,	50 cs.	R. Warner & Co.

Caoutchouc—

Straits,	218 c.	Boustead & Co
,,	204	H. W. Jewesbury & Co.
France,	36	Butler's Wf., Ld.

Caoutchouc—

Aden,	8 c.	Dreyfus & Co.
P. E. Africa,	3	Props. Bull Wf.
France,	16	L. & I. D. Jt. Co.
Straits,	51	Adamson, Gilpillan & Co.
France,	28	Hale & Sons
,,	21	L. & I. D. Jt. Co.
Germany,	16	W. M. Smith & Sons
,,	1	Major & Field
,,	11	Prop. Hay's Wf.
Burmah,	7	W. M. Smith & Sons.
Ceylon,	9	L. & I. D. Jt. Co.
Aden,	8	Dreyfus & Co.
Straits,	116	Prop. Hay's Wf.
,,	241	Props. Bull Wf.
,,	28	Rowe, White & Co.
Aden,	84	L. & I. D. Jt. Co.
Ceylon,	1	Lyall, Anderson & Co.
France,	16	Lewis & Peat
Belgium,	6	Props. Bull Wf.
Burmah,	12	Prop. Hay's Wf.
Ceylon,	9	Crabbe & Co.
,,	10	Hoare, Wilson & Co.
,,	100	Prop. Hay's Wf.

Castor Oil—

France,	198 brls.	F. Boehm
,,	26 t.	,,

Castor Oil—

Italy,	25 cs.	Davy, Hill & Co.
,,	50	Stebbing & Co.
,,	60	L. & I. D. Jt. Co.
,,	158 brls.	Nicholson's Wvs.

Chemicals (*otherwise undescribed*)

Sweden,	£35	W. Britten & Co.
U.S.A.,	400	B. & F. Wf. Co.
Holland,	190	W. H. Muller & Co.
Germany,	172	A. & M. Zimmermann.
Belgium,	20	Reitmayer & Co.
,,	6	J. Cockerill Line
Holland,	100 c.	J. M. Steel & Co.
Germany,	6	T. H. Lee
,,	100	C. Zimmermann & Co.
,,	5	A. & M. Zimmermann
,,	200	London & Rhine S. Office
,,	36 pks.	Argo S.S. Co.
,,	3 cs.	,,
,,	£162	,,
Holland,	12	R.W. Greeff & Co.
,,	15	T. H. Lee

Chloride of Lime—

Germany,	140 c.	J. M. Steel & Co.

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Coal Products—
Alizarine
Germany, 208 cks London & Rhine S. Office
Aniline
Germany, 16 cks L. & I. D. Jt. Co.
Belgium, 3 pks Friend & Co.
Belgium, 1 ck J. Cockerill Line
Tar
N Russia, 62 brls London Oil Storage Co.
,, 5,289 Linck, Moeller & Co.
,, 50 P. Heydemann
,, 2,380 London Oil Storage Co.
,, 10 P. J. Danischewsky

Colours (*otherwise undescribed*)—
Hong Kong, 1 cs P. & O. S. N. Co.
Belgium, 23 J. Cockerill Line
Germany, 8 L. & I. D. Jt. Co.
,, 9 cks. ,,
,, 4 London & Rhine S. Office
,, 51 Taylor Bros.
Aust. Hung., 6 United S. Co.
Belgium, 4 Berger & Son
Holland, 5 T. H. Lee
,, 9 J. Barber & Co.
Belgium, 2 pks. J. Cockerill Line

Copper (Regulus)—
S. Aust., 6 t Smith & Son

Copperas—
Germany, £70 Nicholson's Wvs, Ld.

Copper Ore—
Straits, 5 t. Leach & Co.
Queensland, 12 J. Cockerill Line

Cream of Tartar—
France, 23 cks. United Yeast Co.
,, 5 F. C. Devon &Co
,, 2 pks. R. Warner & Co.
,, 7 cks. B. & F. Wf. Co.
,, 25 kgs. ,,
,, 23 cks. Vokins& Co.

Dextrine—
Germany, 3 t. Pronk, Davis & Co.
,, 2 17 c. L. & I. D. Jt. Co.

Dried Blood—
E. Indies, 87 t. F. J. Cornwell & Sons

Dyestuffs—
Cutch
Burmah, 500 bxs. Union Ltge. Co.
Extract (*otherwise undescribed*)
France, 40 cks. B. & F. Wf. Co.
Gambier
Straits, 254 pks. J. Greig
Indigo
E. Indies, 5 bls. F. J. Nathan & Co.
,, 6 L. & I. D. Jt. Co.
E. Indies, 1,231 bgs. W. Balchin, Ld.
,, 1,000 pks. J. Greig
Oakwood Extract
France, 730 cks. L. J. Levinstein & Sons
Tanners' Bark
Natal, 1 t. Baxter, Hoare & Co.
Canada, A., 53 cks. Hoare, Wilson & Co.
,, 38 brls. Boutcher, Mortimore & Co.
France, 9 cks. Bevington & Co.

Farina—
Holland, 11 t. J. C. Mount & Co.
,, 10 J. Barber & Co.

Glue—
Germany, £5 Argo S.S. Co.
France, 315 Bennett S.S. Co.
Holland, 14 W. H. Muller & Co.
,, 9 Van Dam & Co.
Belgium, 75 L. & I. D. Jt. Co.
,, 120 T. M. Duche & Sons
,, 65 D. C. Thomas & Son
N. Russia, 123 J. Greig

Glue—
France, £37 O. Murray & Co.

Glue Stock—
Victoria, 4 t. 1 c. Lampson & Co.
Italy, 3 10 H. C. Staples

Glycerine—
Victoria, £360 H. Hill & Sons

Iodine—
Germany, £3,387 L. & I. D. Jt. Co.
Holland, 4,405 ,,

Kainit—
Germany, 150 t. F. W. Berk & Co.
,, 128 ,,

Lithopone—
Belgium, 40 cks. J. F. Lauderdale
,, 500 brls.
,, 20 cks. O'Hara & Hoar

Magnesite—
Holland, £12 Barr, Moering & Co.
,, 40 W. Dunz

Manganese—
Germany, £63 Argo S.S. Co.

Olive Oil—
Italy, 2 t. Davy, Hill & Co.
,, 1 A. Laming & Co.
France, 10 F. Boehm
,, 189 gals. ,,
,, 30 Hernu, Peron & Co.
,, 70 B. & F. Wf. Co.
Italy, 1 t. Tennant's Wf.
,, 48 gals. ,,
,, 126 Kearley & Tonge
France, 240 L. & I. D. Jt. Co.

Paraffin Wax—
U.S.A., 12 t. 1 c. Mordaunt Bros.
Holland, 2 4 Phillipps & Graves
Germany, 10 P. J. Johnson
Aust.-Hung., 10 ,,

Phosphate of Lime—
France, 315 t. Hunter, Lomer & Co,
,, 520 ,,

Pitch—
N. Russia, 73 cks. Cook & Co.
Belgium, 5 brls. J. Harrison & Co.

Plumbago—
Germany, 26 cks. R. Gallaway
U.S.A., 20 kgs. L. & I. D. Jt. Co.
Ceylon, 193 brls. Erith & Dartford L. Co.

Potassium Carbonate—
Belgium, 2 cks. Luke & Bailey
,, 38 Bessler, Waechter & Co.
France, 5 J. Barber & Co.

Potassium Muriate—
Germany, 50 bgs. Bessler, Waechter & Co.

Potassium Permanganate—
Germany, 100 kgs. R. W. Greeff & Co.

Potassium Sulphate—
Germany, 410 bgs. W. H. J. Alexander

Rosin—
France, 94 cks. Watt & Son
,, 100 Rosin & Turp. Impt. Co.

Saltpetre—
E Indies, 503 c Lucas & Spencer's Wf.
Germany, 200 P. Hecker & Co.

Soap—
Italy, £84 Pronk, Davis & Co.
U.S.A., 37 Beck & Pollitzer
France, 15 L. & I. D. Jt. Co.
,, 514 Vokins & Co.
Holland, 6 W. H. Muller & Co.
France, 15 Mory & Co.

Soda—
Germany, 7 c. A. & M. Zimmermann
Sweden, 19 W. Britten & Co.
Holland, 100 c. R. W. Greeff & Co.
Germany, 200 Fellows, Morton & Co.

Soda Crystals—
Holland, 600 c. W. H. Muller & Co.

Starch—
U.S.A., 4 t. 3 c. L. & I. D. Jt. Co.
Belgium, 5 11 J. Harrison
,, 2 5 Leach & Co.
France, 18 C. E. Wood
Holland, 46 Little & Johnson
Germany, 10 Pronk, Davis & Co.
U.S.A., 15 13 R. Warner & Co.
Holland, 25 10 W. H. Muller & Co.
,, 3 J. Barber & Co.
Belgium, 8 10 Fellows, Morton & Co.
France, 4 10 C. E. Wood
U.S. Atlantic, 18 15 W. Grose & Co.
Holland, 10 Little & Jahnson
France, 1 Kay & Mayo
Holland, 10 Pickfords, Ld.

Tallow—
Victoria, 116 cks. Weber, Smith & Hoare
N.S.W., 58 L. & I. D. Jt. Co.
,, 68 Phillipps & Graves
,, 54 Mordaunt Bros.
N. Zealand, 26 Bk. of N.Z.
,, 8 Bowron Bros.
,, 157 J. Owen
,, 106 Flack, Chandler & Co.
,, 14 C. F. Took
Belgium, 60 Lucas & Spencer's Wf.
Cape, 6 L. & I. D. Jt. Co.
Victoria, 202 Hill & Sons
N. Zealand, 151 Thornett & Fehr
,, 174 L. & I. D. Jt. Co.
,, 40 Morrison & Co.

Tartaric Acid—
Holland, 9 cks. F. C Devon & Co.

Tin Perchlorate—
Holland, £23 J. Barber & Co.

Turpentine—
U S.A., 2,400 brls. Goodlake & Nutter
,, 1,500 Prod. Brokers Co., Ld.
,, 100 London Oil Storage Co.
N. Russia, 196 C. Price & Co.
Holland, 17 cks. W. H. Muller & Co.

Ultramarine—
Germany, 6 pks. Argo S.S. Co.
Belgium, 1 ck. ,,

Wax—
Aden, 1 cs. Dreyfus & Co.
Germany, 13 bgs. L. & I. D. Jt. Co.
France, 2 cks. Figgis & Co.
Holland, 3 cs. W. H. Muller & Co.

White Lead—
U.S.A., 81 cks. Fenner, Alder & Co.
Germany, 42 Taylor Bros.
,, 6 Argo S.S. Co.
France, 60 bgs. L. & I. D. Jt. Co.
Aust.-Hung., 10 brls. United S. Co.

Zinc Oxide—
Belgium, 3 brls. J. L. Lyon & Co.
U.S.A., 500 M. Ashby

Zinc White—
Holland, 25 cks. Perkins & Homer
,, 17 W. H. Muller & Co.

LIVERPOOL.

Week ending October 3.

Acetic Acid—
Antwerp, 31 cbys.

Aluminium—
Montreal, 180 bxs.

Antimony—
Antofagasta, 328 sks. London Agency Bk. Chili
,, 365 J. L. Barber& Co.
,, 250 A. Aramayo& Co.
Havre, 20 cks. Cunard S.S. Co., Ld.

Asbestos—
New York, 20 pks.

Barium Sulphate—
Ghent, 100 bgs. 35 brls.

Barytes—
Antwerp, 71 cks.
Rotterdam, 68 200 bgs.

Beeswax—
Bathurst, 12 pks. Cie F.D.L. Co.
Gando, 10 bls. A. Cros & Co.
Dakar, 22 ,,
Hamburg, 10 22 pks.

Bone Ash—
B. Ayres, 289 t.
,, 696 H. Brown & Co.
,, 410 108 bgs.

Borax—
Antofagasta, 9,900 sks. Borax Con, Co.

Castor Oil—
Leghorn, 10 cs.
Calcutta, 650

Chemicals (*otherwise undescribed*)
Bordeaux, 50 cks.

Coal Products—
Pitch
Glasgow, 80 cks.
Tar
Glasgow, 3,263 brls.

China Clay—
Vigo, 25 bgs.

Colours—
Rotterdam, 6 pks.

Copper Ore—
Tucacas, 220 t. J. Lewis & Son

Cottonseed Oil—
New York, 50 brls.

Cream of Tartar—
Bordeaux, 83 cks.
Marseilles, 7

Dried Blood—
B. Ayres, 1,634 bgs.
,, 330 J. Nelson & Co.

Dyestuffs—
Bark Extract
New York, 25 brls.
Chestnut Extract
Genoa, 100 brls.
Dyewood Extract
Philadelphia, 325 pks.
Hemlock Extract
Boston, 20 brls. M'Arthur & Co.
Myrabolan Extract
Calcutta, 650 cs.
Tannin Extract
Ghent, 110 brls.
Bordeaux, 371 cks.
,, 100 R. J. Francs & Co.
,, 524
Messina, 75
Marseilles, 200
Nantes, 200 R. J. Francis & Co.
Sumac
Palermo, 435 bgs.

Formaldehyde—
Stettin, 5 cks.

Gelatine—
New York, 1 brl. S. Yarwood & Son

Glucose—
New York, 120 brls. Corn Prod. Co.
,, 120 ,,

Glue—
Rotterdam, 3 cks.
St. Nazaire, 8 15 crts.
Marseilles, 40 bls. Grove Chem. Co.
,, 20 cs.

Glue Stock—
Marseilles, 506 bgs.

Glycerine—
Rotterdam, 50 dms.

Iodine—
Valparaiso, 60 kgs. A. Gibbs & Sons

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Lithopone—
Rotterdam, 4 cks.
Iron Oxide—
Malaga, 100 bgs. 40 brls.
Magnesite—
Rotterdam, 63 bgs.
Amsterdam, 250
Magnesite Ore—
Kymassi, 985 t.
Limni, 435 1,156 bgs.
Mineral White—
Bordeaux, 50 bgs.
" 400 R. J. Francis & Co.
Olive Oil—
Bordeaux, 302 cs.
Marseilles, 500
Oxide of Nickel—
Rotterdam, 4 cks. 20 bgs.
Phosphate—
Sfax, 2,950 t.
Con'table, 1,500 Albright & Wilson
Plumbago—
Genoa, 43 brls.
Potash—
Hamburg, 18 cks.
" 25 dms.
Prussiate of Potash—
Hamburg, 7 cks.
Rosin—
Bordeaux, 264 cks. R. J. Francis & Co.
New York, 10 brls.
Bordeaux, 681
Rubber—
M. Video, 480 pks. W. Brandt & Co.
Boston, 90 cs. Davies, Turner & Co.
Manaos, 737
Para, 785
Rotterdam, 4
Assini, 2 cks. Dunlop Trading Co.
" 4 Cie Francaise de Kong
G.d. Bassam, 2 Pickering & Berthoud
Lahou, 34 Cie Franç. de K.
" 5 R. & W. King
Gd. Bassa, 1 Liberian Rubber Corporation
S. Leone, 4
Gando, 3 A. Cros & Co.
Matadi, 46 pks. Hatton & Cookson
Ambrizette, 29 "
" 14 J. Holt & Co.
Duala, 1 R. & W. King
Calabar, 3 T. Welsh & Co.
" 53 J. Edwards
" 4 Miller Bros.
" 2 cks. L. Steinberg & Co.
Accra, 2 J. P. Werner
Sekondi, 8 pks. J. J. Fischer & Co.
Sekondi, 3 J. P. Werner
Valparaiso, 89 bls. J. H. Schroder & Co.
" 19 A. Gibbs & Sons
" 6 Hainsworth, Watson
Bahia, 67 pks.
Antwerp, 3 cks.
Salt (Waste)—
Hamburg, 350 t.
Soap—
New York, 294 brls.
Genoa, 140 cs.
Leghorn, 150
Marseilles, 45
" 46
Soda—
Antwerp, 7 cks.
Sodium Nitrate—
Junin, 4,974 bgs.
Caleta Buena, 25,165
Iquique, 49 t.
Sodium Sulphide—
Antwerp, 3 dms.
Starch—
Antwerp, 206 cs.
Ghent, 20
Hamburg, 172
Ghent, 20 J. T. Fletcher & Co.
Rotterdam, 90
Starch—
Philadelphia, 53 brls.
New York, 150 Corn Prod. Co.
Marseilles, 50 bgs.
New York, 300 "
Stearine—
Antwerp, 4 bgs. J. T. Fletcher & Co.
Sulphur—
Catania, 174 pks.
Talc—
Genoa, 100 bgs.
Tallow—
New York, 5 trcs. Swift & Co.
" 75
B. Ayres, 280 cks.
Philadelphia, 65 trcs.
B. Ayres, 483 cks.
Sydney, 306 Co-op. W'sale Society
Tin—
Antofa'ta, 5,070 sks. J. Titley & Co.
" 503 F. Huth & Co.
" 904 J. H. Schroder & Co.
" 3,450 London Agency Bk. Chili
" 1,016 A. Aramayo & Co.
" 991 Banco Anglais S. Am.
" 324 City & Midland Bank
" 2,658 A. Aramayo & Co.
Turpentine—
Glasgow, 25 brls.
Ultramarine—
Rotterdam, 16 cks.
Antwerp, 8
Wax—
New York, 120 brls. Mordaunt Bros.
" 200 cs.
Rotterdam, 15
Phila'phia, 100
Marseilles, 24 bgs.
Valparaiso, 41 sks.
White Lead—
Rotterdam, 181 cks.
Wolfram Ore—
Antofagasta, 48 sks. J. L. Barber & Co.
" 56
Zinc Oxide—
New York, 450 brls.
Zinc White—
Rotterdam, 56 cks.
Stettin, 5

MANCHESTER.

Week ending October 5.

Antimony Oxalate—
Hamburg, 12 cks.
Asbestos—
Quebec, 5,024 bgs.
Genoa, 19 bls.
Rotterdam, 14 cs.
Barytes—
Antwerp, 21 cks. 100 bgs.
Ghent, 100
Rotterdam, 14 cs.
Bog Ore—
Antwerp, a qty.
Calcium Carbide—
Gothenburg, 100 dms.
Carbon Black—
New York, 15 cs.
Castor Oil—
Valencia, 15 brls.
Antwerp, 28
Leghorn, 3 cs.
Caustic Potash—
Gothenburg, 13 cs.
Caustic Soda—
Gothenburg, 5 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 11 cks.
Rotterdam, 5 10 kgs. 281 bgs.
Chrome Fluoride—
Rotterdam, 10 cs.
Coal Products—
Alizarine
Rotterdam, 43 cks.
Aniline Oil
Rotterdam, 8 pks.
Dimethylaniline
Rotterdam, 1 ck.
Naphthylamine
Rotterdam, 4 cks.
Tar
Gothenburg, 50 cks.
Tar Salt
Hamburg, 13 cks.
Colours—
Antwerp, 10 cks.
Hamburg, 2 cs.
Rotterdam, 495 13
Cottonseed Oil—
N. York, 550 brls.
Dextrine—
Hamburg, 1 ck.
Dyestuffs—
Divi Divi
Hamburg, 87 bgs.
Indigo
Rotterdam, 20 cks.
Tannin
Rotterdam, 4 cks.
Tannin Extract
Ghent, 56 cks. J. T. Fletcher & Co.
Farina—
Hamburg, 250 bgs.
Rotterdam, 2,050
Ferro Chrome—
Bordeaux, 11 cks.
Glucose—
N. York, 1,200 brls.
Genoa, 250
Glue—
Antwerp, 40 bgs. 6 cks. 7 bls.
Hamburg, 100
Rouen, 75 pks.
Rotterdam, 20 cs.
Lead Acetate—
Rotterdam, 33 cks.
Litharge—
Rotterdam, 56 cs.
Magnesite—
Rotterdam, 135 bgs.
Olive Oil—
Leghorn, 9 cs.
Oxalic Acid—
Hamburg, 15 cks.
Potash—
Hamburg, 25 dms.
Potassium Chlorate—
Gothenburg, 20 kgs.
Pyrites—
Pomaron, 20 t.
Red Lead—
Rotterdam, 27 cks.
Salt (Waste)—
Hamburg, 350 t.
Soap—
Genoa, 140 cs.
Soap Stock—
Genoa, 600 bgs.
Soda—
Antwerp, 46 cks.
Sodium Chlorate—
Gothenburg, 20 cks.
Sodium Hyposulphite—
Hamburg, 100 cks.
Starch—
Antwerp, 320 cs.
Ghent, 200 bgs.
N. York, 400 5 brls.
Stearine—
Antwerp, 108 bgs.
Tallow—
New York, 200 trcs.
Tin Oxide—
Rotterdam, 14 cks.
Tin Salt—
Rotterdam, 70 dms.
Ultramarine—
Rotterdam, 2 cks. 8 cs.
Wax—
New York, 564 brls.
Hamburg, 40 bgs.
Zinc Oxide—
Rotterdam, 8 brls.
Zinc White—
Rotterdam, 10 cks.

HULL.

Week ending October 5.

Acid (*otherwise undescribed*)—
Danzig, 20 cks.
Fred'ksstad, 120
Acetic Acid—
Rotterdam, 8 pks. Stephenson & Martin
Albumen—
St. Petersburg, 12 cs.
Asbestos—
Dunkirk, 5 bgs. Wilsons & N.E. R. S. Co.
Antwerp, 6 pks. "
Barytes—
Rotterdam, 29 cks. Hull & N. S.S. Co.
Ghent, 24
Antwerp, 28 160 bgs.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 ck. 4 brls. Hull & N S.S. Co.
Dunkirk, 90 Woodhouse & Co.
Coal Products
Creosote Salt
Rotterdam, 4 crts. Hull & N. S.S. Co.
Alizarine
Rotterdam, 68 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 340 pks. Hull & N. S.S. Co.
Tar
Uleaborg, 13,166 J. Good & Son
Colours—
Hamburg, 10 brls. Wilsons & N.E. R. S. Co.
New York, 500 cs.
Hamburg, 47 pks.
Dyestuffs—
Sumac
Palermo, 700 bgs.
Farina—
Stettin, 170 bgs.
Glucose—
New York, 120 brls. Wilson, Sons & Co.
Glycerine—
Hamburg, 6 brls. Wilsons & N.
" 20 cs. E. R. S. Co.
Kainit—
Hamburg, 320 t.
Lithopone—
Rotterdam, 50 cks. Stephenson & Martin
Linseed Oil—
Antwerp, 6 brls. Wilson & N.E. R. S. Co.
Olive Oil—
Messina, 10 cks. Wilson, Sons & Co.
Paraffin Scale—
New York, 510 brls.
Phosphate—
Bona, 900 t.
Pumice—
Messina, 20 bgs.
Red Lead—
Rotterdam, 7 cks. Hull & N. S.S. Co.
Rosin—
New York, 41 brls.
Soda—
Ghent, 110 bgs.
Sulphur—
Catania, 50 t. 167 pks.
Starch—
Antwerp, 45 cs.
Rotterdam, 14 Hull & N. S.S. Co.
Ultramarine—
Rotterdam, 6 cks. Hull & N. S.S. Co.
White Lead—
Rotterdam, 163 cks. Hull & N. S.S. Co.
Amsterdam, 11 "
Zinc White—
Rotterdam, 25 cks. Hull & N. S.S. Co.

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GLASGOW.

Week ending October 10.

Asbestos—
Genoa, 5 cs.

Barium Sulphate—
Antwerp, { 35 cks. / 300 bgs.

Borate of Lime—
A'fagasta, 3,581 bgs. Borax Consolidated
Mollendo, 2,813 "

Castor Oil—
Antwerp, 28 brls.

Colours—
Antwerp, 3 cks. 5 cs.

Copper Pyrites—
Huelva, 2,207 t.

Dyestuffs—
Bark Extract
Philadelphia, 5 brls.

Iron Ore—
S. Cabullo, 2,400 t. R. J. Forfar & Co.
Larms, 5,350
Scriphos, 3,100 A. B. Craig

Linseed Oil—
Antwerp, 30 brls.

Lithopone—
Antwerp, 60 cks.

Manure—
Lisbon, 12 bgs.

Rosin—
Baltimore, 2,600 brls.

Soap—
Genoa, 98 cs.

Soda Crystals—
Antwerp, 3 bgs.

Sodium Chlorate—
Antwerp, 8 brls.

Starch—
Antwerp, 100 cs.

Wax—
Baltimore, 489 brls.
Philadelphia, 233

TYNE.

Week ending October 5.

Antimony Ore—
Antwerp, 2,045 bgs. J. Arnott & Son

Asbestos—
Hamburg, 8 bls. Tyne S.S. Co.

Barytes—
Rotterdam, 301 bgs. Tyne S.S. Co.
Antwerp, 200 J. Arnott & Son

Calcium Carbide—
Trondhjem, 600 dms.

Carbonite—
Nassluis, 750 cs. T. Riche & Co.

Castor Oil—
Antwerp, 27 brls. J. Arnott & Son

Dyestuffs—
Tannin Extract
Bordeaux, 10 cks.

Farina—
Amsterdam, 20 bgs. W. Swanston & Sons

Glucose—
New York, 300 brls. J. Arnott & Son

Paraffin Scale—
New York, 902 brls. J. Arnott & Son

Rosin—
Bordeaux, 56 cks.

Tallow—
New York, 157 cks. J. Arnott & Son

Zinc Oxide—
New York, 150 brls. J. Arnott & Son

GOOLE.

Week ending October 5.

Barytes—
Rotterdam, 57 cks.

Bog Ore—
Harlingen, 64 t.

Caoutchouc—
Boulogne, 15 cks. 1 cs.

Chemicals (*otherwise undescribed*)
Antwerp, 135 bgs.
Boulogne, 2 cks.
Hamburg { 55 20 dms. / 101 cbys.
Rotterdam, 33

Dyestuffs (*otherwise undescribed*)—
Antwerp, 2 cks.
Boulogne, 82 4 cs.
Hamburg, 115 9
Rotterdam, 718 57

Farina—
Amsterdam, 50 bgs.
Delfzyl, 550

Glue—
Ghent, 26 bgs.

Magnesite—
Amsterdam, 50 bgs.

Phosphate—
Treport, 650 t.

Salt (Waste)—
Hamburg, 20 t.
Ghent, 60 bgs.

Starch—
Rotterdam, 40 pks.
Ghent, 16 cs.

Stearine—
Hamburg, 12 cks.
Boulogne, 7

GRIMSBY.

Week ending October ·.

Barytes—
Antwerp, 78 pks.

Bog Ore—
Rotterdam, 110 t.

Caoutchouc—
Antwerp, 1 cs.
Rotterdam, 4

Chemicals (*otherwise undescribed*)
Hamburg, 9 cs.

Colours—
Hamburg, 5 cks. 19 pks.
Antwerp, 60
Rotterdam, 12 4

Ferro Chrome—
Dieppe, 4 cks.

Ferro Silicine—
Antwerp, 55 cks.

Glue—
Antwerp, 10 bgs.

Glue Stock—
Antwerp, 5 bgs.

Litharge—
Rotterdam, 3 cks.

Saltpetre—
Rotterdam, 720 bgs.

Stearine—
Antwerp, 63 bgs.

Ultramarine—
Rotterdam, 4 pks.

Wax—
Hamburg, 1 bg.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 9.

Acetic Acid—
Colombo, 3 cks. £30

Alum—
Port Elizabeth, 11 c. £5

Ammonia—
Durban, 3 c. 12 cs. £41
Sydney, 1 15
Delagoa Bay, 5 13
Gothenburg, 3 cylds. 19
Hong Kong, 1 6
Port Sudan, 4 6
Algoa Bay, 1 8 21
Cape Town, 2 8

Ammonia Anhydrous—
Bombay, 6 cs. £25

Ammonium Carbonate—
Stettin, 6 cks. £16
Bombay, 3 cs. 9
Cologne, 10 27
Para, 2 7

Ammonium Chloride—
Melbourne, 10 c. £15

Ammonium Muriate—
Melbourne, 2 t. 7 c. £51
Buenos Ayres, 2 8

Ammonium Nitrate—
New York, 12 cks. £101

Ammonium Sulphate—
Demerara, 10 t. £122
Madras, 3 10 c. 46
Rotterdam, 47 575
Treport, 19 14 240
Yokohama, 200 2,400

Antimony—
Hamburg, 3 t. 9 c.

Arsenic—
N. Orleans, 10 t. £300
Osaka, 1 33
Kobe, 2 65
Yokohama, 1 33

Asbestos—
Boulogne, £21

Barium Binoxide—
Paris, 62 t. 7 c. £2,120

Barium Carbonate—
Philadelphia, 20 cks. £27

Bone Ash—
Callao, 12 c. £33

Boracic Acid—
Calcutta, 10 c. £14

Borax—
Brisbane, 15 kgs. £75

Calcium Carbide—
Adelaide, 4 c. £5
Para, 20 t. 310

Caustic Soda—
Zanzibar, 4 t. £40
Wellington, 1 17
Brisbane, 10 c. 11

Chemicals (*otherwise undescribed*)
Hamburg { 4 c. / 5 cs. £157
Madras, 3 22
Alexandria, 7 94
Karachi, 9 120
Boston, 4 94
Bombay, 8 17
Durban, 2 14
Philadelphia, 2 cks. 5 49
Vancouver, 1 24
Montreal, 14 97
Rotterdam, 2 pks. 1 19
Mossel Bay, 1 10
Para, 6 13
New York, 1 8
Bremen, 1 kg. 6
Ostend, { 4 / 2 c. 155

Citric Acid—
Calcutta, 1 cs. £6
E. London, 1 c. 11
B. Ayres, 1 t. 11 70
Hamburg, 16 119
Rotterdam, 5 41
Montreal, 1 5 61
Bombay, 8 35
Para, 1 18
New York, 4 33
Calcutta, 1 10
Durban, 1 10

Citric Acid Crystals—
Bombay, 1 c. £10

Coal Products (*otherwise undes.*)—
Treport, 82 t. £240

Coal Products—
Alizarine
Madras, 5 cks. £10
Aniline
Adelaide, 1 cs. £19
Aniline Colour
Bombay, 1 cs. £13
Aniline Dye
Melbourne, 4 pks. 3 cs. £145
Aniline Oil
Boulogne, 1 8
New York, 20 dms. £500
Aniline Powder
E. London, 1 cs. £9
Anthracene
Hamburg, 325 cks. £338
Benzol
Para, 12 cs. £6
Treport, 49 cks. 70
Bitumen
Wellington, 3 cks. £4
Para, 204 361
Carbolic Acid
Penang, 4 cs. £15
Napier, 2 cks. 6
Carbolic Acid (Crystals)
Yokohama, 100 dms. £251
Boston, 13 cks. 79
Penang, 3 cs. 13
Creosote
Rouen, 6 cks. £8
N. Orleans, 20 40
Amsterdam, 10 13
Naphthaline
Algoa Bay, 22 cs. £11
St. Petersburg, 541 bgs. 156
Naphtha
Singapore, 10 brls. £25
Broome, 20 kgs. 7
Malta, 50 8
Antwerp, 935 t. 1,235
Treport, 21 33
Gravelines, 170 225
Sydney, 5 cs. 5

Coal Products—
Pitch
Hamburg { 50 bgs. / 50 brls. £109
Tar
Algoa Bay, 500 dms. £17
Yokohama, 21 5
Paris, 50 brls. 40
Danzig, 100 53
Cape Town, 70 9
Bombay, 50 75
Hong Kong, 5 rnlts. 9
Tar Oil
Boulogne, 1 brl. £20
Tar Salts
New York, 8 cks. £80
Terebene
Durban, 3 dms. £6
Napier, 1 cs. 7
E. London, 1 14
Algoa Bay, 1 5
Wanganui, 3 14
Toluol
Treport, 25 cks. £45

Copper Sulphate—
Rio Grande, 13 t. 10 c. £360
Delagoa Bay, 6 8
Dusseldorf, 10 223
Antigua, 5 9
Rotterdam, 15 335

Cottonseed Oil—
Marseilles, 39 t. 17 c.
Bordeaux, 17 4
Rotterdam, 18 9

Cream of Tartar—
Port Elizabeth, 5 c. £20

Cyanide (*otherwise undescribed*)—
New York, 9 t. 16 c. £739
Brisbane, 2 176
Townsville, 2 12 185
Melbourne, 5 377

Disinfectants—
Boston, 9 cs. £174
Vera Cruz, 15 36
Wellington, 15 pks. 21
Zanzibar, 9 10

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Disinfectants—
Alexandria, 2 brls. 4 cs. £10
Barbadoes, 3 cks. 1 22
Calcutta, 100 dms. 10 14 231
C. Town, 20 70 571 318
Malta, 2 15
New York, 4 5
Marseilles, 11 15
Penang, 12 15
Rangoon, 90 23
Toronto, 1 5
Zanzibar, 6 c. 10
Algoa Bay, 1 6
Brisbane, 2 t. 14 40 87
H. Kong, 200 13
Jamaica. 5 10
Mombasa, 6 13
Singapore, 1 5 32

Fertiliser—
Montreal, 2 t. 2 c. £59

Glycerine—
Durban, 5 c. £14
New York, 49 t. 6 1,630
Philadelphia, 24 7 600
Algoa Bay, 2 5
H. Kong, 10 30

Guano—
Demerara, 85 t. £725

Hydrochloric Acid—
Callao, 5 c. £8

Hydrogen Peroxide—
A'fagasta, 9 c. £13

Lead Acetate—
Madras, 11 c. £18

Linseed Oil—
Auckland, 9 t. 1 c.
Brisbane, 23 14
B. Ayres, 7
H. Kong, 6 14
Kilindini, 12
Malta, 1 8
Ostend, 115
Para, 3 7
Patras, 19
Penang, 5
Manaos, 14
Melbourne, 19 4
Rio Grande, 2 5
Rio de Jan., 10 8
Santiago, 2 1
Talcahuano, 12 14
Adelaide, 10
Alexandria, 4 13
Antwerp, 25
Bangkok, 10
Bordeaux, 1 15
Gibraltar, 1 7
Hamburg, 10
Melbourne, 2
Napier, 2
Pelotas, 3 10
Piræus, 1 4
P. Elizabeth, 5 15
Pt. Said, 18
Santos, 11
Singapore, 4 19
Sydney, 14 2
Tientsin, 15
Tripoli, 18
Wellington, 1 4

Manure—
Trinidad, 27 t. £175
Singapore, 4 20
Lisbon, 250 579
Auckland, 150 18 c. 315
Demerara, 50 500
Durban, 46 13 212
Jersey, 187 665
Montreal, 59 2 464
Bermuda, 10 1 119
Yokohama, 157 1,220
Kobe, 160 1 1,287
Trinidad, 20 55
St. Michaels, 1 13

Muriatic Acid—
Penang, a qty.

Nickel Salts—
Yokohama, 10 cs. £17

Nitric Acid—
Callao, 14 c. £25
Penang, a qty. —
Rio de Jan., 2 t. 3 18

Oxalic Acid—
Karachi, 7 cks. £13
New Orleans, 5 t. 199

Phosphoric Acid—
Melbourne, 1 cs. £5
New York, 1 t. 3 c. 96

Phosphorus—
Sydney, 22 cs. 9 c. £223

Potash—
Melbourne, 7 c. £49
Lyttelton, 10 53

Potassium Bicarbonate—
Melbourne, 6 c. £7

Potassium Cyanide—
Melbourne, 1 t. 2 c. £76

Potassium Sulphite—
Boston, 5 c. £14

Pyrogallic Acid—
Bombay, 1 c. £5

Salammoniac—
Valparaiso, 7 c. £11
Durban, 1 t. 29

Salicylic Acid—
Yokohama, 5 cs. £48
Kobe, 10 102

Saltpetre—
Oporto, 17 t. 6 c. £430
Wellington, 4 61
Santos, 15 2 428
Corunna, 2 3 48
Algoa Bay, 7 brls. 9
Melbourne, 4 111
Para, 10 c. 15
N. Orleans, 17 3 421
Amsterdam, 1 6 33
Sydney, 6 153
Port Elizabeth, 10 13
Rio de Jan., 2 54

Saltpetre Crystals—
Algoa Bay, 9 c. £12

Sheep Dip—
Timaru, 500 cs. £875
Cape Town, 120 dms. 42
P. Arenas, 40 80
Townsville, 1 t. 3 c. 59
Hamburg, 3 cs. 7
Lyttelton, 5 cks. 50 68

Soap—
Alexandria, 2 t. 9 c.
Antwerp, 17
Auckland, 6
Azores, 3
Bombay, 4
Channel Is., 8
Cochin, 2 7
Delagoa Bay, 1 10
Demerara, 6
E. London, 18
Hamburg, 6
Kilindini, 14
Madras, 2 16
Malta, 10
Marseilles, 2
Melbourne, 4
Mombasa, 6 9
Montreal, 3 18
New York, 14
Ostend, 3
Piræus, 6 18
Rangoon, 10
Rotterdam, 5 16
Wellington, 4
Zanzibar, 12 15
Bangkok, 2
Bengazi, 5
Bordeaux, 3
Boulogne, 3
Brisbane, 2 8
Calcutta, 1 3
C. Town, 2 6
Chinde, 1 6
Colombo, 4 2
Dominica, 10
Karachi, 11
Natal, 1
P. Alegre, 3
Pt. Elizabeth, 4
Pt. Sudan, 1
Rio de Jan., 2
Rosario, 1 18
St. John, 17
Shanghai, 11 8
Sydney, 6
Trinidad, 2 16

Soap Powder—
Auckland, 1 t.

Soda—
Dunedin, 10 c. £10

Soda Crystals—
Lisbon, 1 t. 6 c. £8

Sodium Bisulphite—
Paris, 11 c. £10

Sodium Cyanide—
Townsville, 8 t. £728

Sodium Sulphate—
Christiania, 251 t. £502

Sodium Tartarate—
Montreal, 11 c. £30

Starch—
Channel Is., 3 t. 12 c.
Delagoa Bay, 2 9
Durban, 1 3
Bilbao, 1 5
Colombo, 1 4
Copenhagen, 1 5
Hamburg, 16
Natal, 4
Salonica, 1 5
Sydney, 3

Sulphate of Lime—
Wellington, 2 t. 10 c. £14
Boston, 7 c. £21

Sulphur—
Durban, 2 t. 16 c. £32
Ostend, 15 —
Algoa Bay, 3 19 46
Montreal, 43 3 193
Durban, 5 30
E. London, 20 kgs. 6
P. Elizabeth, 2 23

Sulphuric Acid—
Alexandria, 11 c. £3
Demerara, 12 t. 10 78
Trinidad, 2 10 8
E. London, 1 8
Rio de Jan., 2 5 13
Monte Video, 1 cs. 5
Channel Is., 18 10
Madras, 1 5
Calcutta, 11 17
Hong Kong, 1 2 13
Sydney, 11 6
Colombo, 2 16 12
Dunedin, 3 2
Gijon, 4 8
Mombasa, 10 4
Oporto, 1 3
Bordeaux, 4 7

Superphosphate—
Auckland, 100 t. £319

Tallow—
Hamburg, 30 t.
Rotterdam, 23 12 c.
Danzig, 10 3
S. Petersburg, 70 3
Smyrna, 5 19

Tannic Acid—
Brussels, 1 c. £6

Tartaric Acid—
Toronto, 3 c. £7
E. London, 2 10
Delagoa Bay, 5 24
New York, 12 65

Wax—
Stockholm, 2 t.

White Lead—
Auckland, £231
Melbourne, 969
Sydney, 1,364
Bombay, 2,923
Brisbane, 54
Calcutta, 149
Port Elizabeth, 71
Singapore, 49
Wellington, 168

LIVERPOOL

Period ending October 9.

Acetic Acid—
Natal, 2 c. £7
Lisbon, 6 t. 16 62

Alum—
Bourgas, 8 t. 6 c. £43
Galatz, 6 31
Messina, 1 2 6

Ammonia—
Panama, 1 cs. £2
Savanilla, 1 c. 2
San Jose de G., 2 1
Tampico, 1 t. 7 39

Ammonium Anhydrous—
Las Palmas, 6 c. £70

Ammonium Carbonate—
Gijon, 10 c. £17
Algoa Bay, 3 6
Naples, 10 12
Alexandria, 17 30
Genoa, 2 t. 11 90
Venice, 1 5 44
Trieste, 17 30
Lisbon, 1 33
Rouen, 2 19 96
Montreal, 2 10 87
New York, 48 8 144
Rangoon, 2 5

Ammonium Muriate—
Rouen, 1 t. 9 c. £3
Montreal, 3 72

Ammonium Muriate—
Alexandria, 2 t. £48
Leghorn, 8 3 c. 220

Ammonium Sulphate—
Cartagena, 50 t. 5 c. £603
Phila'phia, 134 10 1,580
Nantes, 78 933
Kobe, 100 12 1,183
Teneriffe, 71 15 722
Las Palmas, 37 15 460
Barcelona, 45 540
Alicante, 85 993
Lisbon, 95 3 1,142
Tarragona, 24 17 300
Valencia, 269 10 3,118
Denia, 101 1,212
Durban, 12 144
Yokohama, 100 1,200
Laguna, 10 6
Mauritius, 102 7 1,372
New York, 125 6 1,510
Monte Video, 1 11 8
N. Orleans, 48 11 576
Baltimore, 30 15 360

Arsenic—
Falkland Is., 1 t. 15 c. £57

Barium Sulphocyanide—
Rio de Jan., 1 t. £37

Basic Slag—
Catania, 70 t. £140
Genoa, 50 100
Venice, 11 10 c. 460
Gijon, 30 45
Villagarcia, 75 112
Alicante, 20 30
Seville, 77 116
Oporto, 49 12 75
Bombay, 15 41

Bleaching Powder—
Baltimore, 24 cks.
Bombay, 155 125 cs.
New York, 128 44 brls.
Portland, 897
Melbourne, 100 dms.
Montreal, 56
Phila'phia, 158
Quebec, 127
Rio de Jan., 87

Bones—
Boston, 49 t. £250

Bones (Calcined)—
Hamburg, 10 t. £57

Boracic Acid—
Shanghai, 1 brl. £2
Cape Town, 5 c. 7
Sydney, 6 t. 5 162

Borax—
Savanilla, 2 c. £5
Sekondi, 1 cs. 2
Hong Kong, 1 1
Gd. Canary, 12 t. 5 174
Caibarien, 1 5 19
Piræus, 3 7
Sydney, 24 5 389
Brisbane, 20 15 331
Trieste, 1 9 22
Colon, 2 2
Bahia, 2 3

Boric Acid—
Rangoon, 6 c. £11

Calcium Chloride—
Rouen, 10 t. 13 c. £20
E. London, 3 3 7
Montreal, 32 2 64
Monte Video, 1 12 3
Odessa, 15 3 41
Calcutta, 10 30
Perth, 1 dm. 1
Fremantle, 5 2 10

Caustic Potash—
Maceio, 2 c. £4

Caustic Soda—
Barcelona, 87 cks. 412 dms.
Bombay, 10 9
Brazil, 40 bxs.
Buenos Ayres, 310
Candia, 10
Catania, 56
Colombo, 10
Delagoa Bay, 140 kgs. 5 52 cs. 46
Galatz, 719
Galveston, 50
G. W. Africa, 15
Leghorn, 97
Mexico, 200
Montreal, 90
Naples, 92
Puerta Cabella, 35
Santos, 100
Seville, 245 brls. 60
Sourabaya, 62
Sydney, 20 107
Tunis, 3

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Caustic Soda—

Adelaide,		29 cs.	14 dms.
Amsterdam,			76
Bahia,			130
Bari,			22
Bilbao,	40 brls.		25
Bombay,			13
Buenos Ayres,			778
Calcutta,			25
Chemulpo,			300
Dunedin,			35
Genoa,			30
Havana,			92
Kobe,			242
Maceio,			50
Manilla,			325
Melbourne,	10 cs. 34 pks.		40
Monte Video,			225
Oporto,			40
Para,			6
Pasages,			300
Port Said,			40
Quebec,			50
Rio de Jan.,			140
Rotterdam,			82
Santiago de C.,	9 cks.		
Talcahuano,			25
Tampico,			52

Chemicals (*otherwise undescribed*)

Boston,	1 kg.		£2
P. Cabello,		40 cs.	160
Havana,	20 dms.		54
Calcutta,	2,573 slbs.		174
Melbourne,	50 kgs.		43
Dunedin,	26 brls.		57
Hamburg,	10 cks.		86
Antwerp,	47		74
Ancona,		15	16
Genoa,		30	32
Lagos,	30		27
Montreal,	90	384 bgs.	318
Singapore,		40	320
Rotterdam,	30		320
Karachi,	15 brls.		82
Smyrna,	5		19
Madras,		542	2,170
New York,	7	8 kgs.	82

China Clay—

Barcelona,	140 bgs.		
Boston,	626 cks.		
Calcutta,	364		
Lisbon,	40		
Malaga,	30		
Montreal,	898	492	
N. Orleans,	150		
Newport N.,	950		
Rio de Jan.,	2 t.	5 c.	
St. Johns,	5		
Tampico,	9	13	

Coal Products—

Carbolic Acid

Montreal,		3 c.	£14

Carbolic Acid (Crystals)

New York,	20 t.	1 c.	£1,123

Cresylic Acid

Boston,	4 t.		£60
Montreal,		2 c.	£2

Copper Sulphate—

Vera Cruz,		10 c.	£13
St. Johns,		10	12
Chittagong,	1 t.	9	41
Bombay,	2	10	64
Rangoon,	3	10	90
Rosario,		1	2
Bilbao,	5	1	120
Madras,	1		26
Rotterdam,	3	10	91
Stettin,	2	2	50
Newfairwater,	2		47
Lisbon,	5		120
Belawan,	2	19	69
Marseilles,	7	16	233
Melbourne,	5		118
Napier,	2		47
Nantes,	9	18	250
Wellington,	5		119
Hamburg,	14	11	398
Catania,	11	2	254
Calcutta,	6	5	147
Alexandria,	1		23
Sourabaya,	15	7	413
Salonica,		9	11
Samarang,	6	13	136
Tezal,	1	5	31
Cheribon,		11	14

Cottonseed Oil—

Beira,	55 brls.		
Bordeaux,	15		
Rio Nunez,	2		
Rufisque,	25		
Alexandria,	50		
Marseilles,	458		
Rufisque,	40		

Disinfectants—

Beira,		1 cs.	£1
Bathurst,	2 dms.		1
Cape Town,	2		1
Cape Coast,		3	10
Durban,	100		15
Fiume,	12		8
Singapore,	35		25
Bombay,	482		420
Rouen,	5 cks.		4
Burutu,		2	5
Calcutta,	40 560		97
Colombo,	25	10 kgs.	15
Lagos,	3		6
Antwerp,		4 cs.	2
Para,		1	1
Las Palmas,	2		3
Melbourne,	10 10		97
Rangoon,	40		25
Winnebah,		1	2
Cadiz,		3	11
Napier,		5	6

Dried Blood—

Teneriffe,	2 t.		£19
Santa Cruz,		12 c.	6

Glue—

Calcutta,	29 cks.		
New York,	18 bls.		

Glycerine—

Yokohama,	4 t.		£198
Winnipeg,	1	5 c.	56
Copenhagen,	1	18	87
Montreal,	23	7	1,114
Dunedin,	1		55
Algoa Bay,		4	12
Shanghai,	4	17	206
Cape Town,		6	18
Johannesburg,		6	16
Natal,		2	6
Havana,		2	6
Philadelphia,	30	12	933
M. Video,		5	16
Montreal,	17	16	869
Quebec,	48	6	2,347

Hydrochloric Acid—

Lagos,		1 cs.	£2

Linseed Oil—

Alexandria,	140 brls.		
Bahia,	5		
Buenos Ayres,		430 dms.	
Callao,		5	
Cienfuegos,	20		
Constantinople,	4		
Corral,	3		
Delagoa Bay,		30	
Guayaquil,		30	
Iquique,		15	
Iquitos,	5 cks.	6	
Kingston,		30	
Lisbon,		50	
Manaos,	5	14	4 hhds.
Montreal,		3	
Orotava,		1	
Pernambuco,		13	
Smyrna,		6	
St. Johns,		8	
St. Thomas,		20 dms.	
Bombay,		270	
Cienfuegos,	8		
Constantinople,	8		
Hamburg,	6		
Havana,	5	20	102
Maceio,		2	
Para,		4	43
Patras,		17	
Piræus,		8	
Tientsin,		30	
Valparaiso,		100	
Wellington,		50	
Salonica,	12		
Santos,		130	

Magnesia—

Philadelphia,	2 t.	5 c.	£99
Melbourne,		1 cs.	1

Magnesia (Calcined)—

San Jose de G.,		1 c.	£5
New York,		2	7
Quebec,		9	24

Magnesium Carbonate—

Tampico,	1 t.	13 c.	£49
San Jose de G.,		1	3
Pernambuco,		4	6

Magnesium Chloride—

Moulmein,		4 c.	£2
Rangoon,	4 t.	1	22

Manure—

Gd. Canary,	40 t.		£383
Hamburg,	20	4 c.	131
Phila'phia,	100		500

Muriatic Acid—

Bahia,		4 c.	£4

Oxalic Acid—

Calcutta,	2 t.	4 c.	£48
Karachi,	1	3	24

Paraffin Wax—

Barcelona,	20 bgs.		
Bari,	60		
Brindisi,	20		

Phosphorus—

Seville,		19 c.	£110

Phosphorus (Amorphous)—

Rio de Jan.,		9 c.	£90

Potassium Bicarbonate—

Rangoon,	1 ck.		£3
Vera Cruz,	3 t.	2 c.	89
Santos,		5	11

Potassium Bichromate—

New York,		5 c	£8
Lisbon,	2 t.	6	72

Potassium Chlorate—

Savanilla,		7 c.	£15
Catania,	1 t.	4	39
Shanghai,	5		150
Palermo,		19	30
Naples,	2	9	75
Genoa,		19	30
Malmo,	2	10	75
Copenhagen,	1		28
Konigsberg,	31		928
Varna,		6	10

Potassium Prussiate—

Havana,		1 cs.	£3

Red Lead—

Cienfuegos,	50 kgs.		
Hong Kong,	100		
Manaos,	62		
P. Arenas,	15 cks.		
Smyrna,	5 brls.		

Salammoniac—

Odessa,	10 t.	18 c.	£393
Smyrna,		10	20
Gutujewsky,	10	2	323
Rangoon,		18	40
Sousse,		2	4
Gothenburg,	3		122

Salt—

Antwerp,	77 t.		
Auckland,	50		
Baltimore,	245		
Calabar,	55	16 c.	
,,		1,850 sks.	
Calcutta,	8,393		
Cape Town,	3	8	
Christiania,		1,019	
Delagoa Bay,		1,100	
Demerara,	51	12	
Galveston,		15	
G. W. Africa,		550	
Gibraltar,		10	
Gd. Bassam,		1,100	
Hamburg,		754 bgs.	
Hong Kong,		50 cs.	
Kribi,		1,000	
Manaos,		1,200	
Manoka,		1,500	
Montreal,		6,900	
Saltpond,	5	11 c.	
Trinidad,	68	12	
Calcutta,		200 cs.	
Delagoa Bay,	25		
Buenos Ayres,	100		
Gd. Lahou,	11	3 c.	
Halifax,	100		
Havana,	10		
Quebec,	20		
Rangoon,	662		
Sydney,	150		

Saltcake—

New York,	7 t.	3 c.	£86
Antwerp,	120	2	120

Saltpetre—

Lagos,		2 c.	£3

Sheep Dip—

P. Arenas,	4 t.	10 c.	£179
B. Ayres,	36	19	800
Durban,	3	8	50
Natal,	4		133
E. London,	13	15	266
Pt. Elizabeth,	3,000 dms.		350
Cape Town,	10		75
B. Blanca,	16	2 c.	300
Esmeraldas,	4 dms.	2 cs.	9
Stanley,	9 t.	3 c.	238
New York,		5	12
Buenaventura,	1	3	41

Soap—

Antwerp,	830 cs.		
,,		110 bxs.	
Barbadoes,		500	
Beira,		60	
Bombay,		2,089	
Bonny,		500	
Calcutta,	474 20 kgs.		
Cape Town,	13 bdls.	1,580	

Soap—

Calabar,		2,258	bxs.
Christiania,	75 pks.	20	
Colombo,	66 cs.		
Delagoa Bay,		967	
Demerara,	10	1,567	
Fiume,	7	10	
Hong Kong,		1,095	
Karachi,	677		
Kobe,	9	20	
Lanzarote,		416	
Limon,		20	
Madras,	507		
Manaos,		300	
Montreal,	3		
New York,		200	
Orotava,		112	
Para,		525	
Pt. Stanley,		50	
P. Arenas,	20 kgs.	80	
Rangoon,	355	560	
Rotterdam,	2,280	12	crts.
Shanghai,		3,050	bxs.
Singapore,		2,000	
St. Kitts,		40	
St. Johns,	53	50	
St. Vidcent,		100	
Teneriffe,		784	
Trinidad,		950	
Antofagasta,	271		
Antwerp,	15	100	
Bangkok,	177 pks.	500	
Barcelona,	40		
Batanga,		50	
Beira,	135		
Bombay,	116	30	
Bonny,	1		
Braila,		40	
Calcutta,	40		
Callao,	71		
Cape Town,	230		
Colombo,	38		
Delagoa Bay,	174		
,,	1,230		
Dunkirk,	1,450	175	
Durban,	2		
East London,	75		
Eloby,		50	
Falklands,	30		
Fernando,		50	
Gaboon,		100	
Galatz,	35		
Genoa,	40		
Hamburg,	35	50	
Iquitos,	135 bdls.		
Malta,	612	24	
Opobo,	560		
Penang,	12		
Pt. Said,	20		
Saltpond,		125	
Santiago de C.,	13		
Sekondi,		360	
Shanghai,	2,000		
Singapore,		500	
Stamboul,	112		
Stockholm,	300		
Talcahuano,	13		
Tientsin,	65		
Varna,	30		
Volo,	80		
Yokohama,	301		

Soap Extract—

Sydney,	6 tnks.		

Soap Powder—

Christiania,	50 bxs.		
Durban,		10 skl.-cs.	

Soda Ash—

Corfu,	25 brls.		
Singapore,	30 cks.		
Sydney,	174 kgs.		
Yokohama,		2,230	bgs.
Barcelona,	54	100	
Bombay,	19	30	
Calcutta,		2,700	
Boston,	34		
Bahia,	80	70	
B. Ayres,	19		
Genoa,		75	
Halifax,		16	
Hamburg,	10		
Hiogo,		500	
M. Video,	100		
Montreal,	20	1,067	
Naples,		100	
Oporto,		4 brls.	
Rotterdam,		57	
Salaverry,	20		
Shanghai,		514	
Varna,		600	
Vera Cruz,	90		

Soda Crystals—

Delagoa Bay,	15 kgs.		
Valparaiso,	550 brls.	252	dms.
P. Arenas,	15		
Calcutta,	28 cks.		
Montreal,	75	100	800 bgs.

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Sodium Bicarbonate—
Delagoa Bay, 20 bgs. 80 dms.
Melbourne, 147
Sydney, 40
Alexandria, 60
Bahia, 20 kgs.
Calcutta, 1,200
Buenos Ayres, 102
Hong Kong, 146
Montreal, 20
Penang, 12 cks.
Rangoon, 375
St. Johns, 40
Spain, 150
Valencia, 75
Vera Cruz, 320

Sodium Silicate—
Auckland, 41 brls.
Bombay, 10 cks.
Christiania, 14
Leghorn, 32
Messina, 295
Montreal, 16 50
Sydney, 70
Tampico, 47
Braila, 94
Calcutta, 80
Catania, 86
Colombo, 4
Fremantle, 67 pks.
Opobo, 18
Sao Paulo, 32

Sodium Sulphate—
Bombay, 4 dms.

Sulphur—
Maceio, 10 c. £6
Algoa Bay, 4 t. 9 50

Sulphuric Acid—
Delagoa Bay, 3 t. 12 c. £17

Superphosphate—
Alicante, 311 t. 16 c. £889
Malaga, 559 1 1,634
Pasages, 128 618
Valencia, 558 19 1,621
Teneriffe, 44 19 133
Las Palmas, 79 10 242

Tallow—
Benguela, 1 brl.
Rotterdam, 272 cks.
Vigo, 62
Alexandria, 15 trcs.
Maceio, 3
Newfairwater, 54
Para, 3
Piræus, 15
New York, 108

Tin Crystals—
Galveston, 19 c. £108

White Lead—
Calcutta, 20 cks.
Cienfuegos, 2
Hong Kong, 70 kgs.
Kingston, 500
Rosario, 2,000 dms.
Wellington, 140

Zinc Chloride—
Philadelphia, 6 t. 1 c. £68

MANCHESTER.

Week ending October 9.

Calcium Carbide—
Montreal, 2 cs.

Caustic Soda—
Copenhagen, 4 dms.

Coal Products—
Aniline Oil
Phila'phia, { 2 brls. 59 dms.
Creosote
Aden, 300 bgs.
Naphthylamine
Hamburg, 29 cks.

Copperas—
Quebec, 25 brls.

Dyestuffs (*otherwise undescribed*)—
Rouen, 10 brls.

Dyestuffs—
Dyewood Extract
Rotterdam, 10 cks.

Farina—
Hamburg, 4 bgs.

Glue—
Boston, 1 ck.
Rouen, 100 bgs.

Glycerine—
Germany, 60 dms.

Linseed Oil—
Beyrout, 4 brls.

Mineral White—
Rouen, 42 cks.

Salt—
Copenhagen, 8 cs.
St. John, 235 t.

Saltcake—
Gothenburg, 48 t.

Sheep Dip—
Copenhagen, 1 cs.

Soap—
Bombay, 15 cs.

Sodium Prussiate—
Montreal, 13 cks.
Philadelphia, 26 pks.

Starch—
Bombay, 10 bgs.

Turpentine—
Beyrout 4 dms.

Zinc Oxide—
Beyrout, { 80 kgs. 2 cks.

HULL.

Week ending October 5.

Ammonium Sulphate—
Dunkirk, 243 bgs.
Hamburg, 500
Italy, 1,961
Leghorn, 2,193
Yok'hama, 2,302

Chemicals (*otherwise undescribed*)
Amsterdam, 1 ck. 24 cs.
Antwerp, 10 10
Bari, 16
Bergen, 4 dms.
Copenhagen, 16
Christiania, 5 12 kgs.
Drontheim, 10
Gothenburg, 15 pks. 7 1,352 slbs.
Helsingfors, 1
New York, 153 156 dms.
Rotterdam, 141 cks.
Stettin, 15

Coal Products—
Pitch
Antwerp, 2 cks.
B. Ayres, 680
Tar
Hamburg, 25 cks.
Rotterdam, 5

Cottonseed Oil—
Amsterdam, 11 t. 2 c.
Antwerp, 25 2
Bremen, 8 15
Copenhagen, 3
Dunkirk, 5 1
Hamburg, 28 11
Rotterdam, 52 9
Stockholm, 1 4
Stettin, 31 16

Dyestuffs (*otherwise undescribed*)—
Antwerp, 10 cks.
Hamburg, 2

Glue Stock—
St. Petersburg, 62 bgs.

Linseed Oil—
Antwerp, 9 t. 16 c.
Copenhagen, 2 6
Christiania, 10
Hamburg, 7 9
Trieste, 15

Plumbago—
Christiania, 11 cks.

Phosphate Powder—
Bergen, 85 t.
Copenhagen, 50
Ch'tiansund, 19 17 c.

Salt—
Antwerp, 25 cs.
Copenhagen, 12

Soap—
Trieste, 8 brls.

Tallow—
Amsterdam, 13 cks.
Bergen, 10 trcs.
Hamburg, 27
Stockholm, 20

Turpentine—
Antwerp, 9 cks.
Alexandria, 103 dms.
Copenhagen, 9
Hamburg, 34
Stockholm, 14

GLASGOW.

Week ending October 10.

Ammonia—
B. Ayres, 13 c.

Ammonium Carbonate—
Gothenburg, 1 t. 16 c.

Basic Slag—
Fremantle, 100 t.

Caustic Potash—
Joh'burg, 1 t. 19 c. 1 q.

Coal Products—
Creosote Oil
Rio de Jan., £300

Colours—
Coronel, £31
Valparaiso, 215

Dyestuffs (*otherwise undescribed*)—
Sweden, £215

Dyestuffs—
Dyewood Extract
Antwerp, £150

Ferro Silicon—
Canada, 100 t.

Glycerine—
U.S.A., £170

Linseed Oil—
A'fagasta, 1 t. 19 c. 1 q.
Alexandria, 17 16 2
Canada, 12
Malta, 7 7 2
Rio de Jan., 3 19 1
Valparaiso, 6 3

Olive Oil—
Dunedin, £60

Paraffin—
Cape Town, 2 c. 2 q.

Paraffin Wax—
Corral, 8 t. 11 c. 1 q.
U.S.A., 10
Smyrna, 1 19 3

Potassium Bichromate—
Montreal, 22 t. 4 c. 1 q.
Toronto, 1

Red Lead—
B. Ayres, 8 t. 17 c.

Soap—
Alexandria, 12 c.

Sodium Bichromate—
Bombay, 50 c. 1 q.
Canada, 1 t. 14 1
Montreal, 4 15

Sodium Cyanide—
Joh'burg, 25 t.
San Marcos, £455
Natal, 166

Starch—
Rio de Jan., £49

Sulphuric Acid—
Cape Town, £28
Calcutta, 285

Superphosphates—
Fremantle, 1,665 t.

Tallow—
Alexandria, 4 t. 3 c. 1 q.

Turpentine—
Alexandria, £21

White Lead—
Delagoa Bay, 10 t. 1 c.
Wellington, 2

TYNE.

Week ending October 5.

Aluminium—
Bilbao, 10 c.

Antimony (Regulus)—
Canada, 4 t. 5 c. 2 q.
Stavanger, a qty.
Bergen, "
Rotterdam, 3 14 14 lb.

Barytes—
Canada, 50 t. 4 c. 1 q. 24 lb.

Bleaching Powder—
Christiania, 1 t. 15 c. 24 lb.
Copenhagen, 13 7 1 q. 18
Gothenburg, 71 6 1 20
Rotterdam, 16 2 14

Caustic Soda—
Antwerp, 1 t. 14 c. 3 q. 8 lb.
Amsterdam, 10 8 3 20
Canada, 87 1 8
Christiania, 2 9 2
Copenhagen, 11 2 16
Gothenburg, 9 17 1 8

Chemicals (*otherwise undescribed*)
Canada, 16 t. 1 c.

Ferro Manganese—
Bilbao, 105 t. 19 c. 2 q. 14 lb.

Infusorial Earth—
Antwerp, 2 t. 10 c.

Litharge—
Canada, 10 t. 6 c. 1 q. 4 lb.

Manure—
Lisbon, 1,475 t. 17 c. 17 lb.

Red Lead—
Christiania, 1 t. 26 lb.
Bergen, a qty.
Stavanger, "
Gothenburg, 10 c. 1 q. 6

Salt—
Christiania, 1 t. 1 c. 24 lb.

Soda—
Rotterdam, 1 t. 10 c. 3 q. 7 lb.

Sodium Sulphate—
Skutshar, 1,275 t. 4 c. 1 q.
Antwerp, 100
Gothenburg, 2 15 2 21 lb.

Sodium Sulphide—
Christiania, 2 t. 9 c. 3 q. 13 lb.
Gothenburg, 14 5 3 22

Sulphur—
Amsterdam, 5 t. 1 c. 1 q.
Gothenburg, 60
Christiania, 100

White Lead—
Canada, 103 t. 5 c. 5 lb.
Stavanger, a qty.
Bergen, "
Gothenburg, 12 2 q.
Rotterdam, 2 15 3 3
Copenhagen, 2 8 3

GOOLE.

Week ending October 5.

Chemicals (*otherwise undescribed*)
Amsterdam, 100 cks.
Antwerp, 45
Boulogne, 2 cs.
Copenhagen, 10
Hamburg, 19 276
Rotterdam, 61 14 dms.

Coal Products (*otherwise undes.*)—
Antwerp, 7 cks.
Boulogne, 182
Delfzyl, 319
Hamburg, 7
Rotterdam, 61 14 dms.

Coal Products—
Benzol
Hamburg, 49 cks.
Rotterdam, 70 dms.

Colours—
Amsterdam, 100 bgs.
Antwerp, 12 cks. 3 cs. 17 dms.
Boulogne, 40 26 2
Ghent, 1
Hamburg, 42 1

Dyestuffs (*otherwise undescribed*)—
Antwerp, 4 cks.
Barytes, 3

Manure—
Antwerp, 69 bgs.
Rotterdam, 495

Soap—
Ghent, 2 cs.

GRIMSBY.

Week ending October 1.

Chalk—
Hamburg, 16 brls.
Rotterdam, 5

Chemicals (*otherwise undescribed*)
Halmstad, 2 cks.
Hamburg, 7
Palermo, 10 cs.
Rotterdam, 486 bgs.

Coal Products (*otherwise undes.*)—
Dieppe, 113 cks. 3 dms.
Helsingborg, 5 brls.

Colours—
Hamburg { 6 brls. 16 pks.
Helsingborg, 2 cs.

Dyestuffs (*otherwise undescribed*)—
Hamburg, 1 cs.
Rotterdam, 2

Manure—
Hamburg { 2,668 bgs. 210 t.

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PRICES CURRENT.

FRIDAY, October 18, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
Acetic 25% and 40%	per cwt.	9/-	&	13/-
„ Glacial	„		40/-	
Arsenic S.G. 2,000°	„		31/-	
Fluoric	per lb.	0	0	4¾
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
„ (Cylinder), 30° Tw.	„	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	„	0	0	10⅛
Picric	„	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
„ (Pyrites, 168°)	„	3	2	6
„ („ 150°)	„		30/-	
„ (free from arsenic, 145°)	„		36/-	
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic	per lb.	0	1	3
Tartaric	„	0	0	11⅛
Acetone	per ton	82	10	0
Arsenic, white powdered nett	„	30	5	0
Alum, loose lump (delivered)	„	5	12	6
Alumina Sulphate (pure)	„	4	7	6
Aluminoferric	„	2	12	6
Aluminium (Ingot metal 98/99%) nett	„	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
„ .880	per ton	24	0	0
„ .920	„	13	0	0
„ Carbonate	per lb.	0	0	3⅝
„ Muriate (grey)	per ton	25	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	42/	&	40/-
„ Nitrate	per ton	36	0	0
„ Phosphate	„	38	0	0
„ Sulphate (grey). London	„	11	15	0
„ „ „ Hull	„	11	16	3
„ „ „ Manchester	„	11	17	6
Aniline Oil (pure)	per lb.	0	0	5⅛
Aniline Salt „	„	0	0	4⅞
Antimony	per ton	45	0	0
„ (tartar emetic) 43/44%	per lb.	0	0	9⅛
„ (golden sulphide)	„	0	1	3
Barium Chloride	per ton	7	5	0
„ Carbonate (native). 92/94%	„	5	0	0
„ Sulphate (native levigated)	„	45/	to	65/-
Bisulphide of Carbon	„	18	10	0
Bleaching Powder, 35% nett	„	4	7	6
„ Liquor, 7%	„	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	„	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	„	0	2	3
Anthracene, 40% A, f.o.b. London, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¾
„ 50/90	„	0	0	9
Carbolic Acid (crude 60°)	„	0	1	8
„ (crystallised 40°)	per lb.	0	0	5⅝
„ (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	„	0	0	2¾
„ (filtered for Lucigen light)	„	0	0	3¼
Crude Naphtha, 30% A @ 120° C.	„	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	1	5	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	59	0	0
„ Sulphate	„	22	5	0
„ Oxide (copper scales)	„	51	10	0
Glycerine (crude), 80%	„	32	10	0
„ (distilled S.G. 1260°)	„	56	0	0
Iodine nett	per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	7	6
„ Sulphide	„	3	10	0
Lead (sheet)	„	21	10	0
„ Litharge Flake (ex ship)	„	23	10	0
„ Acetate (white)	„	31	10	0
„ „ (brown)	„	26	10	0
„ Carbonate (white lead), pure	„	25	10	0
„ Nitrate	„	33	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
„ „ (grey) 80%	„	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
„ Chloride	per ton	3	7	6
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton	17	0	0
„ Sulphate (Epsom Salts)	„	3	0	0
Manganese, Sulphate,	„	17	10	0
„ Borate	per cwt.	2	2	6
„ Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	„	0	2	4
„ „ Miscible, 60° O.P.	„	0	1	10
Oils :—				
Cottonseed	per ton	26	10	0
Linseed	„	25	5	0
Stearine	„	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
„ (red)	„	0	1	11
Potassium, Bichromate nett	„	0	0	3½
„ Carbonate, 90% (ex ship)	per ton	19	10	0
„ Chlorate	per lb.	0	0	3½
„ Cyanide, 98%	„	0	0	8½
„ Hydrate (Caustic Potash), 90%	per ton	25	10	0
„ „ „ 75/80%	„	21	0	0
„ Potash Hydrate Liquid, 50%	„	14	10	0
„ Nitrate (refined)	„	23	10	0
„ Permanganate (small crystals)	per cwt.		36/-	
„ Prussiate (yellow)	per lb.	0	0	5¾
„ Sulphate, 90% (ex ship)	per ton	9	15	0
„ Muriate, 80% „	„	9	0	0
Silver (metal)	per oz.	0	2	4 1/16
Sodium (metal)	per lb.	0	3	0
„ Carb. (refined Soda-ash), 48%, nett	per ton f.o.r. w'ks.	5	15	0
„ „ (Caustic Soda-ash), 48% „	„	5	10	0
„ „ (Carb. Soda-ash), 48% „	„	5	10	0
„ „ (Alkali), 58% (bags)	„	4	10	0
„ „ (Soda Crystals)	„	2	17	0
„ Acetate (ex ship)	„	17	5	0
„ Arseniate, 45%	„	24	0	0
„ Borate (Borax), Crystals	„	16	0	0
„ Bichromate	per lb.	0	0	3
„ Cyanide (100% basis)	„	0	0	7½
„ Chlorate	„	0	0	3½
„ Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
„ „ (74% C. Soda) „ „	„	10	15	0
„ „ (70% C. Soda) „ „	„	10	5	0
„ „ (60% C. Soda) „ „	„	9	5	0
„ „ (pure liq. 90° Tw.) „ „	„	4	15	0
„ 77/78% powdered (99% hydrate)	per ton	12	10	0
„ Bicarbonate (cwt. kegs)	„	6	15	0
„ Hyposulphite	„	6	5	0
„ Manganate, 25%	„	20	0	0
„ Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
„ Nitrite, 98%	per ton	29	10	0
„ Phosphate	„	9	5	0
„ Prussiate	per lb.	0	0	3⅝
„ Silicate (glass)	per ton	5	5	0
„ „ (liquid, 100° Tw.)	„	3	17	6
„ Stannate, 40%	per lb.	0	0	9
„ Sulphate (Salt-cake)	per ton	2	2	6
„ „ (Glauber's Salts)	„	1	15	0
„ Sulphide (crystals)	„	6	5	0
„ Sulphite	„	6	5	0
Strontium Hydrate, 100%	„	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
„ Barium, 95%	„	0	0	3½
„ Potassium	„	0	0	7
Sulphur (Flowers)	per ton	6	10	0
„ (Roll Brimstone)	„	6	5	0
„ Brimstone (Best thirds) (ex ship)	„	4	12	6
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	33	10	0
Tin Crystals	per lb.	0	0	10¾
„ English Ingots	per ton	146	0	0
Zinc (Spelter)	„	21	15	0
„ Chloride (solution, 100° Tw.)	„	6	5	0
„ Sulphate, Crystal	„	7	10	0

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THE

CHEMICAL TRADE JOURNAL

AND

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LATE ADVERTISEMENTS.

TENDER.

COUNTY OF LONDON.

THE London County Council invites tenders for the supply and delivery of:—

Chemicals, medicines first-aid appliances, etc., and chemical apparatus, etc., for one year from 1st January, 1908.

Full particulars, and also information as to the conditions to be observed by tenderers, are given in the "London County Council Gazette" of the 28th inst. (price 1d., post free 1½d.), which can be obtained from Messrs. P. S. King and Son, 2 and 4, Great Smith Street, Westminster, S.W.

Standard samples may be seen at Westminster Bridge Wharf, No. 1, Belvedere Road, S.E., from Monday, 28th October, until Saturday, 9th November, 1907, between the hours of 10 a.m. and 4 p.m. on any week day excepting Saturday, when the samples may be seen between the hours of 10 a.m. and 1 p.m.

The Tenders must be upon the official forms, to be obtained on personal application or by sending a stamped addressed foolscap envelope to the Clerk of the Council County Hall, Spring Gardens, S.W., and no tender will be received after 11 a.m. on the 11th November, 1907.

G. L. GOMME,
Clerk of the London County Council.

County Hall, Spring Gardens, S.W.
24th October, 1907.

ASSISTANT MANAGER, CHEMICAL WORKS.

THE Bradford Corporation require the services of an Assistant Manager of the Chemical Works. Salary, £120 per annum. Preference will be given to applicants who possess a good knowledge of chemistry.

Applications, stating age, occupation, and experience, accompanied by copies of not more than three recent testimonials (which will not be returned), and marked on cover "Assistant Manager, Chemical Works," to be sent to me on or before Saturday, 16th November next.

Canvassing members of Council will disqualify.

23rd October, 1907. FREDERICK STEVENS, Town Clerk.

DISMANTLING OF CHEMICAL WORKS AT CRAYFORD, KENT.
TO CHEMICAL MANUFACTURERS, OIL WORKS, AND OTHERS.

FOR SALE, piecemeal, an entire plant, in good condition, consisting of Boilers, Tanks of all sizes, Cast-iron Pans, Vertical Steam Engine, Cornish Boiler, two Hydro Extractors, 3 tons Steam Bogie Crane, Horizontal Engine with Stone Crusher, Pumps, Stills, Jars, etc., etc.—For prices and particulars, apply to Thos. W. Ward, Ltd., Albion Works, Sheffield.

QUALIFIED Chemist, with considerable manufacturing experience, rapid technical analyst, now disengaged, desires appointment.—"1,549," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

MANAGERSHIP of Sales Department or other responsible position required. Good organiser, up-to-date knowledge of "follow-up" systems, etc. Excellent experience and testimonials.—Box "1,550," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CURRENT TOPICS.

THE NEW PATENTS ACT.

THE new Act amending and consolidating the law relating to patents, designs, and trade marks (the text of which appears elsewhere in this issue), was the subject of a very interesting speech by Mr. Lloyd-George, the President of the Board of Trade, at Manchester last week. Mr. Lloyd-George was the guest of the members of the Manchester Chamber of Commerce, at their annual dinner, and in referring to the work of the Chamber he alluded to the prominent part which that body had played in the reform of the Patent Laws. The President of the Chamber had said that the Patents Bill was their child; Mr. Lloyd-George wittily added that he himself was the nurse. He had received great assistance from Sir William Holland, and also from Mr. Ivan Levenstein and Sir Joseph Lawrence. Mr. Levinstein (continued Mr. Lloyd-George) had fought this matter out with great tenacity and courage, and he now had his reward. The Act was out, and it must not be a dead letter. It was one thing to have a good Act on the Statute Book, but it was another thing to see that it was enforced. The difficulty in this country is, in the opinion of the President of the Board of Trade, an absence of organisation, which has brought out the quality of the individual, but with Acts of Parliament like this we must get organisation.

Mr. Lloyd-George then paid a high tribute to Mr. Levinstein's efforts in connection with Patent Law reform. He observed that we had patent laws before which contained the principle of compulsory working, but they were left to Mr. Levinstein to put into operation. No one man could undertake a burden of this kind, but a cheaper method of procedure had now been provided. The Government had done their best to eliminate the lawyer. Said Mr. Lloyd-George, "You know the old adage, set a poacher to catch a poacher! It is cheaper."

Continuing, the President of the Board of Trade dealt with the question of patents taken out in this country and worked abroad. He has had prepared a list of these patents, which, he told the Manchester Chamber of Commerce, were very numerous. Some of them were no doubt insignificant, others were not very valuable, but some of them were of enormous value, covering practically every branch of industry. This means that every one of these patents registered here and worked abroad is excluded from operation in this country.

Mr. Lloyd-George urged that it is really worth while making an effort to see that the new Patents Act shall be a reality and not a sham. It is a reality as far as its powers are concerned, but the question as to whether it will be a reality in its operation depends, in his opinion, on the amount of co-operation between the Chambers of Commerce and the Board of Trade.

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Passing on to the working of the Act, the President stated that a list was being prepared of patentees who now would be subject to the provisions of the Act as to working in this country, and such patentees would be asked to explain what adequate reason exists for the non-working of such patents. Mr. Lloyd-George appealed to the Associated Chambers of Commerce to put themselves into communication with the Board of Trade, and to help that department to find out some method "whereby the initial steps shall be taken to call upon these hundreds of foreign patentees to assign good reason for using this monopoly, granted by the Crown, for the purpose of excluding Britishers from setting up industries in this country."

We do not propose to discuss the merits of the new Patents Act, nor the benefit to British trade which may result from the application of the principle of compulsory working; but we would join with the President of the Board of Trade in his handsome acknowledgment of the good work done in the cause of Patent Law reform by the members of the Manchester Chamber of Commerce and by the national Association of Chambers. The success which has attended the co-operation of these bodies with the Board of Trade augurs well for the future influence of such organisations upon Government policy and legislation. The thanks of the industrial community are due to the energetic head of the Board for the progress which has been made in this direction, and, in common with chemical manufacturers in general, we shall watch with great interest the application and working of the new law.

THE TRADE "BOOM" IN GERMANY.

It is the opinion of some authorities on German industrial conditions that the era of prosperity which has continued uninterrupted for several years past is approaching its end, and that business is on the verge of a decline. The general opinion is, however, that if commercial activity has suffered a check, it has only stopped to take breath in order to make a fresh start; and the setback, if any, is to be ascribed to the tight money market. The demands on the banks have been so great that they have had difficulty in accommodating their customers. For more than a year the rates of discount have been unusually high; Government and other gilt-edged securities have considerably fallen; but this is explained by the fact that people think they can employ their money better than by investing in securities which yield such a little return. Cities and towns which formerly borrowed at 3 or 3½% find it difficult to place loans at 4 and 4½%. The United States Consul-General at Brunswick observes that the tight money which has been produced by prosperity has in its turn acted as a curb, so that the prosperity does not exceed reasonable bounds and bring ruin on the business community.

RUBBER CULTIVATION IN INDO-MALAYA.

The frequent registrations of new rubber-growing companies are a measure of the efforts which are being made to increase the supply of rubber. The editor of the *India Rubber Journal*, in a survey of the world's rubber industry, observes that in view of the youthfulness of the rubber-growing industry the money at stake is expressive of keen admiration of the efforts already put forward. Ceylon leads the way for planted acreage, owing, no doubt, to its wide range of climatic conditions, its experienced European planters, and the cheapness of its coolie labour. The high price of the land is, however, a deterrent to those willing to invest their money in rubber cultivation. Malaya has many advantages of climate and facilities for securing land for rubber-growing, and is, in some ways, viewed with greater favour than Ceylon; it has disadvantages, however, in having to pay a high price for its labour, and in having no dry period.

In S. India there were, in 1906, about 13,000 acres under cultivation, and since then several companies have made developments. Parts of Java, Sumatra, and Borneo possess rich soils and suitable climates where land can be secured on reasonable terms. In some of these islands, species other than *Hevea Brasiliensis* can be cultivated more profitably than in Indo-Malaya. Para rubber trees will even grow more rapidly in some parts of the islands than in Ceylon or Malaya.

NORWEGIAN WATER-POWER AND FOREIGN CAPITAL.

The King of Norway has given his assent to an Act dealing with the utilisation of water-power. This Act provides that embankment works cannot be taken in hand without the King's consent when the water used by the undertaking is increased to at least 3,000 horse-power. The Act is the outcome of the recent attack on the Government, in which the Administration was accused of injuring the interests of the country for the advantage of foreign capitalists. The Storthing adopted the Act without any noteworthy discussion, although it was opposed by the Government on the ground that the proposal was a rupture of traditional customs and an interference with private rights in property. The Government itself had, however, already embarked upon this path by having established the principle that the natural riches of Norway represented State property, and that, consequently, the State could utilise those riches to its own advantage.

NITRATE OF SODA.

THE market has developed much weakness since our report of 12th inst., owing to the unsatisfactory state of affairs in Chili, where the large accumulation of stocks and the strained condition of the money market have induced a pressure of sales. Financial difficulties in Hamburg have also increased the uneasiness of holders, and although quotations there are only nominally lower, considerable concessions would be necessary in order to attract buyers. Nitrate for prompt shipment from the West Coast has been sold down to 8s. 6d. per quintal, f.o.b., and is nominally quoted 10s. 6d. per cwt., cost and freight, the respective values at this time last year being 9s. 6d. and 11s. An arrived refined cargo is said to have changed hands at 10s. 3d., and ordinary quality in the same position would not fetch much, if anything, above 10s. per cwt., cost and freight. The cargo that has been awaiting orders at Plymouth for nearly three months has at last been sent unsold to Liverpool, to which port yet another of 2,500 tons has been ordered, making the stocks there over 13,000 tons, against 7,000 tons a year ago! The total European stocks are about 165,000 tons, compared with 120,000 tons at this time last year, and many July sailings are now due. Out of 190,000 tons loading in Chili on October 1, 70,986 tons were cleared up to 15th inst—including a number of fast German ships due here early in January before the opening of the season—and, as was to be expected, very moderate estimates of the month's total for Europe are being circulated. The official figure of 147,422 tons is supposed to have helped to stiffen the market, but business is conspicuous by its absence. The predominant feature is the complete indifference of consumers, who are content to wait to see how the nitrate cat jumps.

Serious Explosion at an American Powder Factory.—A disastrous explosion occurred on Tuesday week at the Dupont Powder Mills, near Fontanet, Indiana. The mills were completely destroyed, and extensive damage to the town of Fontanet resulted. A large number of workpeople and others were killed, while according to the reports in the daily Press a still larger number were more or less seriously injured.

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C.I.F. SHIPMENTS.

A CORRESPONDENT recently called attention to the confusion existing as to the exact meaning of the familiar terms, "c.i.f.," and "f.o.b." The same subject has been discussed in other journals, and we quote the following interesting article from the *Manchester Guardian*.

A question having been raised in these columns as to the legal responsibilities of shippers in regard to goods exported on "c.i.f." terms, it may be said that judicial decision appears to be only slightly more definite than that of the commercial community. In 1871 Mr. Justice Blackburn, in the case of Ireland *v.* Livingstone, said:—"The terms at a price" to cover cost, freight and insurance by acceptance on receiving shipping documents "are very usual, and are perfectly well understood in practice. The invoice is made out debiting the consignee with the agreed price (or the actual cost and commission, with the premiums of insurance, and the freight, as the case may be) and giving him credit for the amount of freight which he will have to pay to the shipowner on actual delivery, and for the balance a draft is drawn on the consignee, which he is bound to accept (if the shipment be in conformity with his contract) on having handed to him the charter-party, bill of lading, and policy of insurance. Should the ship arrive with the goods on board he will have to pay the freight, which will make up the amount he has engaged to pay." He further describes the contract as "one by which the one party binds himself absolutely to supply the goods in a vessel such as is stipulated for, at a fixed price, to be paid for in the customary manner—that is, part by acceptance on receipt of the customary documents and part by paying the freight on delivery; and the other party binds himself to pay that fixed price." In actual practice to-day the more "customary manner" is for the exporter to pay the freight on shipment. But as he still charges the consignee with this, it is arguable that he only pays it as the consignee's agent. Against this suggestion of agency is the fact that in case of loss of the goods on the voyage he cannot recover the freight from the consignee, who has never received the goods.

The question is, what does the exporter contract to do? The term c.i.f. refers to the price, but it is used in connection with other terms of the contract, *e.g.* "port abroad—October delivery." Now in the case of Wancke *v.* Wingren (58, L.J.Gr.B., 519), a c.i.f. contract provided that goods were to be shipped by the seller in Sweden and sent off to one of three English ports, at the buyer's option. The Courts—Day and Smith J.J.—recognised that although the freight was charged by the seller, the buyer would in effect have to pay it on the discharge of the goods—as in Mr. Justice Blackburn's dictum. Placing the emphasis on the condition "to be shipped," they made the moment of shipment that at which the risk shifted to the buyer, the exporter having then finished all he contracted to do. If "port abroad" is, as it seems to be, equivalent to "to be shipped," the logical conclusion would be that by shipping in October, under such terms, the exporter performed his part of the contract, and would be under no further liability. The Court has never specifically construed a c.i.f. contract (without such further conditions) in such a way as to determine the moment when the risk shifted, *i.e.*, when the property in the goods passed from the exporter to the consignee. In Delaurier *v.* Wyllie, a Scotch case reported in 17 Sess. Cases, Lord M'Laren said: "In the absence of other elements of evidence or implication from the contract itself, I should be disposed to think that a sale expressed to be inclusive of cost, freight, and insurance, is a sale of goods deliverable at the port of arrival, and that the property of the goods does not pass until the completion of the voyage, unless something more is done to anticipate the passing of the property," but he expressly reserved his opinion as to the meaning of the abbreviation, and other members of the Court did not agree with him in his disposition. Lord Traynor said that the special obligations implied by "c.i.f." had no reference to the question of delivery. "I think," he added, "the question as to what delivery is sufficient to free the seller of risk and where such delivery is held to be made are not affected by these additional obligations" (*i.e.*, to insure the goods and pay the freight), "but are to be decided according to the ordinary rules of law applicable thereto. . . . It still remains that the contract c.i.f. does not stipulate for delivery at a certain place. If the defenders had averred that by the custom of merchants a contract c.i.f. meant, and was universally recognised as meaning, a contract under which the seller bound himself to deliver at the port to which the goods were consigned, that would have been a different matter. But no such custom is averred." Lord Wellwood went further than this, and said, "The meaning and effect of the expression c.i.f. simply is that the sellers undertake to insure for the purchaser and include in the invoice price the cost of the cargo, the insurance premium, and the full freight. From this they deduct the amount of the freight to be paid at the port of discharge and draw for the balance on the consignee." This is incidentally supported by Lord Shand, who speaks of the insurance that the exporter effected as being one that would cover any loss that the consignee might sustain, and Mr. Justice Blackburn, in the earlier case we have cited, says: "Should the goods not be delivered in consequence of a peril of the sea, he" (the consignee) "is not called on to pay the freight, and he will recover the amount of his interest in the goods under the policy."

The inference here is that the insurance is effected on behalf of the consignees. The Court says that the insurance premium is in effect paid by the consignee, and the moneys recoverable under the policy are payable to him. Is not the logical conclusion that during the period covered by the policy—*i.e.*, the voyage—the goods are at the risk of the consignee? On this view the term c.i.f. looks like one of commercial convenience. The foreign consignee buys in the English market, but as the scale of insurance and freight are more easily ascertainable by the English exporter he says in effect to the latter, "You insure the goods and pay the freight and include these charges in your price," which results in a c.i.f. contract. It is the exporter's duty to insure sufficiently and to ship under such a bill of lading as will ensure the goods' delivery at the port of discharge mentioned in the contract [Lecky *v.* Ogilvy, 3 Comm. Cases, 29], but these would seem to exhaust the "additional obligations" implied by a c.i.f. contract. If this is the correct view, delay in transit is clearly, as suggested by our correspondent, at the consigner's risk.

But there is no doubt that among shippers themselves there are many who take quite a different view of their obligations under a c.i.f. contract. To these the liability only ends with delivery at the port of discharge. They effect the insurance in their own names and on their own behalf. If the goods do not arrive they recover what they can from the insurance or shipping company (as the case may be), and make what terms they can with their consignee for non-delivery. In this relation, they, of course, make prudent provision against a possible rise in the market, and delay in transit probably becomes a subject for "allowances," in which the shipping company becomes indirectly implicated. It is all straightforward and reasonable enough, but it is not flush with what the judicial interpretation of the contract would seem to be, nor does it appear to obtain so widely as to suggest the likelihood of its being judicially accepted as a mercantile custom.

PERSONAL.—Mr. Thomas Cantrell, the late secretary of the well-known engineering firm of Manlove, Alliott and Co., Ltd., of Nottingham, was on the 7th inst. presented with a silver tea service and salver, subscribed for by the directors, staff, and workmen, in recognition of his forty-six years' connection with the firm. Mr. Cantrell joined the Company in 1861, being appointed secretary when the firm was registered as a limited company. Failing health, however, made it necessary for Mr. Cantrell to retire recently, to enjoy a well-earned rest after nearly half-a-century's busy life.

GERMAN ITEMS.—The Phœnix Mining and Foundry Company obtained in year ending 30th June, the following by-products:—Sulphate of ammonia, 4,640 tons, against 2,257 tons in the previous twelvemonths; 10,935 tons tar; 952 tons raw benzol; 813 tons refined ditto; 2,874 tons pitch; 1,283 tons tar oil; 521 tons raw naphthaline; and 166 tons anthracene. The Union Mining and Steel Company increased its output of sulphate of ammonia from 639 tons to 1,674 tons, and is putting up 80 more coke ovens. The Märkisch-Westphalian Mining Company produced 10,887 tons of 60% sulphuric acid, against 10,966 tons in 1905-6. On account of the lateness of the harvest in Germany the demand for manures is so slight that many agricultural associations are countermanding their orders for ammoniacal superphosphate. The Hungarian manure manufacturers have come to an understanding for the maintenance of prices, an example which might with advantage be followed by their British confrères; these latter continue to cut each other's throats by selling at cost price, in spite of the sensational advance in wheat and other cereals.

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IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during September, 1907, as compared with September, 1906:—

ARTICLES.	QUANTITIES. Month of September.		VALUE. Month of September.	
	1907.	1906.	1907.	1906.
CHEMICALS:			£	£
Bleaching Materials Cwts.	8,783	14 631	2,201	3,541
Boracite, Borate of Lime, Borate of Magnesium, and Borax ..... ,,	11,028	26,831	5,328	9,716
Brimstone ..... ,,	14,796	19,658	3,895	4,772
Coal Products, not Dyes .... ,,	5,849	4,722	9,134	10,449
Cream of Tartar ,,	5,178	3,653	19,999	14,206
Glycerine ..... ,,	3,085	4,771	5,644	8,470
Muriate of Ammonia .... ,,	699	427	1,140	595
Saltpetre (Nitrate of Potash) .... ,,	21,375	14,024	20,523	13,531
Soda Compounds ,,	19,614	25,836	7,960	8,073
Sulphuric Acid . ,,	500	8,020	125	406
Tartaric Acid .. ,,	2,205	2,243	11,128	11,422
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value £	--	—	215,792	160,707
DRUGS and MEDICINES:				
Bark, Peruvian ...Cwts.	1,072	1,174	2,503	1,971
Quinine and Quinine Salts .. ozs.	170,384	113,236	5,461	3,556
Unenumerated Value £	—	—	81,193	70,353
DYE STUFFS (other than DYE WOODS) and SUBSTANCES used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	27,632	13,850	11,548	5,408
Cutch ..... Tons	225	365	5,369	7,263
Dyes, Coal Tar: Alizarine and Alizarine Dyes Cwts.	4,588	2,727	17,072	11,778
Aniline ..... ,,	16,013	11,426	89,396	64,472
Synthetic Indigo ,,	2,662	3,133	10,342	11,081
Other Coal Tar ,,	212	—	1,041	—
Extracts .....Value £	—	—	55,260	57,423
Gambier .....Tons.	717	862	12,650	17,431
Indigo .....Cwts.	141	35	1,778	427
Myrabolans .... ,,	60,289	61,054	15,843	15,479
Valonia ..... Tons	1,179	975	11,608	10,603
PAINTERS' COLOURS AND PIGMENTS:				
White Lead ....Cwts	23,807	15,918	25,455	15,275
Nickel Oxide .... ,,	962	1,794	5,130	9,571
Zinc Oxide .... ,,	25,569	19,551	30,258	21,338
Other Sorts .... ,,	113,437	126,215	64,112	67,361
Total ..... ,,	163,775	163,478	124,955	113,545
MANURES:				
Bones, whether burnt or not ..... tons.	777	2,875	4,137	13 771
Guano ..... ,,	215	41	1,073	243
Nitrate of Soda (Cubic Nitre) ,,	936	9,550	9,884	105,109
Phosphate of Lime, and Rock Phosphate ..... ,,	28,236	39,259	44,262	67,618

CHEMICALS IN THE UNITED STATES.

SAVANNAH.

HIGH prices and reduced output in articles such as cotton, turpentine, timber, etc., were the chief features of last year's trade in Savannah. Cotton receipts were only 1,520,857 bales, a decrease of 350,000 bales compared with the previous year, the decrease being attributable to the smaller crop that was produced in the cotton States. Though the decrease in cotton receipts was considerable, if taken by itself, it was proportionately less in relation to the total crop grown than was the reported falling-off at several of the other cotton ports. Taken as a whole, the year's business shows Savannah to be rapidly approaching New Orleans as the second cotton port of the United States.

Naval Stores.—The production of resin, tar, spirits of turpentine, etc., has about reached its limit, owing to the gradual exhaustion of the pine trees; nevertheless, important business is still being done in this branch of trade.

The last naval stores season, which opened on April 1, 1906, was disappointing alike to producers and factors; labour was unsatisfactory, and the weather was unfavourable. Turpentine farmers were seriously handicapped by excessive rains at the beginning of the year, and there was a lack of reliable negro labour, on which the producer has almost solely to depend. Chinese labour, which was tried last season, proved a failure in the turpentine farms, and Italian labour, while showing somewhat better results, is still considered of doubtful value for turpentine work. Most of the resin and turpentine exported from Savannah is received from the pine sections of Georgia, Florida, and Alabama, and great damage was done last autumn throughout this territory by destructive storms and forest fires, which injured many of the turpentine "boxes," as the receptacles cut in the sides of the trees are called, which collect and hold the resinous sap.

Quotations for the leading grades of resin and spirits of turpentine were generally high throughout the year, with moderate fluctuations, and there is little prospect of any marked reduction in values in view of the probably decreased product next season. The receipts of naval stores at this port last year show some increase in the total number of packages of resin and turpentine, which is due to the fact that much of the Florida output is now brought here as parts of through cargo on vessels taking on naval stores at Fernandina and Brunswick, and then coming to Savannah to complete loading with other merchandise for foreign ports.

British interests continue about the same. There is an increase of British steamers at the port of Brunswick; about three-quarters of the total foreign carrying trade is done in British vessels. During the last part of 1906 and the beginning of 1907, much trouble was experienced by shipping and other interests owing to the delay in delivery of shipments by railway companies; a state of affairs caused by strikes, deficiency in rolling stock, and various other causes.

Imports of Chemicals, etc.

The following were the principle articles of import at all the ports of Savannah during the years 1904-1906. The figures are abstracted from a British Consular report just issued.

	Quantities. 1904.	1905.	1906.	Character of trade: From
Brimstone .....tons	—	—	11,992	Sicily
Cement.....lbs.	1,462,454	—	2,613,557	Netherlands and United Kingdom
Clay, china .....tons	2,084	900	2,106	Germany
Coal & shale, bituminous ,,	963	400	172	United Kingdom
Drugs, chemicals .....dozen	1,069	1,000	35 715	United Kingdom
Dyes.....lbs	—	—	80,038	Germany, France ,,
Fertiliser material.....tons	—	49,944	—	Spain, Portugal,
,, crude ..... ,,	110,859	88,778	—	Germany, U.K.
Guano ..... ,,	—	5,021	17,354	Peru
Iodine .....lbs	—	—	25 434	Chile
Kainit .....tons	49,440	92,983	113,203	Germany
Chloride of lime .....lbs.		134,190	—	U.K & Germany
Manure salt .....tons	—	—	4 596	Germany
Magnesite, crude .....lbs	—	22,464	—	United Kingdom
Olive Oil .....gallons	168	227	—	Italy
Cocoanut Oil.....lbs.	—	—	43 343	W. Indies
Oxalic Acid ..... ,,	—	30,458	18,805	U.K. & Germany
Muriate and sulphate of potash..... ,,	19,419,512	21,913,360	23,384 345	Germany
Pyrites, Sulphur ore ....tons	50,348	72,194	56,381	Spain & Portugal
Prepared chalk .....lbs.	35 054	—	—	U.K. & Germany
Nitrate of soda .....tons	4,214	10,044	—	Chile (fertiliser
Sulphide & muriate of soda lbs.	—	67,994	234,010	manufacture)
Common salt..... ,,	448,000	4,563,224	23,570,291	United Kingdom
Aniline salts..... ,,	11,200	279,133	423,856	American ports
Epsom salts ..... ,,	—	151,384	—	and Germany

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		Quantities.			Character of trade: From
		1904.	1905.	1906.	
Stearine	lbs.	—	473,579	—	Netherlands and United Kingdom
Refined sulphur	tons	—	—	11	Sicily
Sulphate Ammonia	lbs.	—	—	896 000	United Kingdom
Tallow	,,	—	—	56,248	Netherlands
Ground talc	,,	—	—	6,614	Germany

The exports from Savannah were:—

		Quantities			Character of trade: To
		1904	1905	1906.	
Copper ingots	lbs.	224 000	336,845	500,897	Cuban ports
Cotton seed	,,	9,028 641	8,404,916	8,106,041	British and Continental ports
,, meal	,,	18,635,450	24,845, 83	24,000,000	British and German ports
,, cake	tons	8 681	6 000	24,280	European countries
,, oil	galls.	968,245	2,396,377	9,504,359	U. K., France, Spain, etc
Phosphate rock	tons	152,456	182,737	153,514	U. K., France, Germany
Pitch	brls.	1,140	440	—	U. Kingdom and European ports
Resin	,,	473,744	300,153	333,310	U. K., Germany, France, Russia
Soapstock and grease	lbs	—	—	2,000	Netherlands and Germany
Spirits of turpentine	gals.	3 577 294	5,310,176	4,629,204	European ports
Tar	brls.	47,280	—	67	Decreased product and larger home consumption caused reduced exports.

THE NEW PATENTS ACT.

THE following is the full text of the "Act to consolidate the enactments relating to Patents for Inventions and the Registration of Designs and certain enactments relating to Trade Marks," to which reference is made in our editorial columns.

Part I.—Patents.

Application for and Grant of Patent.

1.—(1.) An application for a patent may be made by any person who claims to be the true and first inventor of an invention whether he is a British subject or not, and whether alone or jointly with any other person.

(2.) The application must be made in the prescribed form, and must be left at, or sent by post to, the Patent Office in the prescribed manner.

(3.) The application must contain a declaration to the effect that the applicant is in possession of an invention, whereof he, or in the case of a joint application one at least of the applicants, claims to be the true and first inventor, and for which he desires to obtain a patent, and must be accompanied by either a provisional or complete specification.

(4.) The declaration required by this section may be either a statutory declaration or not, as may be prescribed.

2.—(1.) A provisional specification must describe the nature of the invention.

(2.) A complete specification must particularly describe and ascertain the nature of the invention and the manner in which the same is to be performed.

(3.) In the case of any provisional or complete specification where the comptroller deems it desirable, he may require that suitable drawings shall be supplied with the specification, or at any time before the acceptance of the same, and such drawings shall be deemed to form part of the said specification.

(4.) A specification, whether provisional or complete, must commence with the title, and in the case of a complete specification must end with a distinct statement of the invention claimed.

(5.) Where the invention in respect of which an application is made is a chemical invention, such typical samples and specimens as may be prescribed shall, if in any particular case the comptroller considers it desirable so to require, be furnished before the acceptance of the complete specification.

3.—(1.) The Comptroller General of Patents, Designs, and Trade Marks (hereinafter referred to as the comptroller) shall refer every application to an examiner.

(2.) If the examiner reports that the nature of the invention is not fairly described, or that the application, specification, or drawings have not been prepared in the prescribed manner, or that the title does not sufficiently indicate the subject-matter of the invention, the comptroller may refuse to accept the application or require that the application, specification, or drawings be amended before he proceeds with the application; and in the latter case the application shall, if the comptroller so directs, bear date as from the time when the requirement is complied with.

(3.) Where the comptroller refuses to accept an application or requires an amendment, the applicant may appeal from his decision to the law officer, who shall, if required, hear the applicant and the comptroller, and may make an order determining whether and subject to what conditions (if any) the application shall be accepted.

(4.) The comptroller shall, when an application has been accepted, give notice thereof to the applicant.

4.—Where an application for a patent in respect of an invention has been accepted, the invention may, during the period between the date of the application and the date of sealing such patent be used and published without prejudice to the patent to be granted for the invention; and such protection from the consequences of use and publication is in this Act referred to as provisional protection.

5.—(1.) If the applicant does not leave a complete specification with his application, he may leave it at any subsequent time within six months from the date of the application.

Provided that where an application is made for an extension of the time for leaving a complete specification, the comptroller shall, on payment of the prescribed fee, grant an extension of time to the extent applied for, but not exceeding one month.

(2.) Unless a complete specification is so left the application shall be deemed to be abandoned.

6.—(1.) Where a complete specification is left after a provisional specification, the comptroller shall refer both specifications to an examiner.

(2.) If the examiner reports that the complete specification has not been prepared in the prescribed manner, the comptroller may refuse to accept the complete specification until it has been amended to his satisfaction.

(3.) If the examiner reports that the invention particularly described in the complete specification is not substantially the same as that which is described in the provisional specification the comptroller may—

(*a*) refuse to accept the complete specification until it has been amended to his satisfaction; or

(*b*) (with the consent of the applicant) cancel the provisional specification and treat the application as having been made on the date at which the complete specification was left, and the application shall have effect as if made on that date.

Provided that where the complete specification includes an invention not included in the provisional specification, the comptroller may allow the original application to proceed so far as the invention included both in the provisional and in the complete specification is concerned, and treat the claim for the additional invention included in the complete specification as an application for that invention made on the date at which the complete specification was left.

(4.) A refusal of the comptroller to accept a complete specification shall be subject to appeal to the law officer, who shall, if required, hear the applicant and the comptroller, and may make an order determining whether and subject to what conditions (if any) the complete specification shall be accepted.

(5.) Unless a complete specification is accepted within twelve months from the date of the application, the application shall (except where an appeal has been lodged) become void.

Provided that where an application is made for an extension of time for the acceptance of a complete specification, the comptroller shall, on payment of the prescribed fee, grant an extension of time to the extent applied for, but not exceeding three months.

7.—(1.) Where an application for a patent has been made and a complete specification has been left, the examiner shall, in addition to the other inquiries which he is directed to make by this Act, make a further investigation for the purpose of ascertaining whether the invention claimed has been wholly or in part claimed or described in any specification (other than a provisional specification not followed by a complete specification) published before the date of the application, and left pursuant to any application for a patent made in the United Kingdom within fifty years next before the date of the application.

(2.) If on investigation it appears that the invention has been wholly or in part claimed or described in any such specification, the applicant shall be informed thereof, and the applicant may, within such time as may be prescribed, amend his specification, and the amended specification shall be investigated in like manner as the original specification.

(3.) If the comptroller is satisfied that no objection exists to the specification on the ground that the invention claimed

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thereby has been wholly or in part claimed or described in a previous specification as before mentioned, he shall, in the absence of any other lawful ground of objection, accept the specification.

(4.) If the comptroller is not so satisfied, he shall, after hearing the applicant, and unless the objection is removed by amending the specification to the satisfaction of the comptroller, determine whether a reference to any, and, if so, what prior specifications ought to be made in the specification by way of notice to the public.

Provided that the comptroller, if satisfied that the invention claimed has been wholly and specifically claimed in any specification to which the investigation has extended, may, in lieu of requiring references to be made in the applicant's specification as aforesaid, refuse to grant a patent.

(5.) An appeal shall lie from the decision of the comptroller under this section to the law officer.

(6.) The investigations and reports required by this section shall not be held in any way to guarantee the validity of any patent, and no liability shall be incurred by the Board of Trade or any officer thereof by reason of, or in connection with, any such investigation or report, or any proceeding consequent thereon.

8.—(1.) An investigation under the last preceding section shall extend to specifications published after the date of the application in respect of which the investigation is made, and being specifications which have been deposited pursuant to prior applications; and that section shall, subject to rules under this Act, have effect accordingly.

(2.) Where, on such an extended investigation, it appears that the invention claimed in the specification deposited pursuant to an application is wholly or in part claimed in any published specification deposited pursuant to a prior application, the applicant shall, whether or not his specification has been accepted or a patent granted to him, be afforded such facilities as may be prescribed for amending his specification, and in the event of his failing to do so the comptroller shall, in accordance with such procedure as may be prescribed, determine what reference, if any, to other specifications ought to be made in his specification by way of notice to the public.

(3.) For the purposes of this section an application shall be deemed to be prior to another application if the patent applied for when granted would be of prior date to the patent granted pursuant to that other application.

(4.) This section shall come into operation at such date as the Board of Trade may by order direct, and shall apply only to applications made after that date, and the order shall be laid before both Houses of Parliament.

9.—On the acceptance of the complete specification the comptroller shall advertise the acceptance; and the application and specifications with the drawings (if any) shall be open to public inspection.

10.—After the acceptance of a complete specification and until the date of sealing a patent in respect thereof, or the expiration of the time for sealing, the applicant shall have the like privileges and rights as if a patent for the invention had been sealed on the date of the acceptance of the complete specification. Provided that an applicant shall not be entitled to institute any proceeding for infringement until a patent for the invention has been granted to him.

11.—(1.) Any person may at any time within two months from the date of the advertisement of the acceptance of a complete specification give notice at the Patent Office of opposition to the grant of the patent on any of the following grounds:—

(*a*) that the applicant obtained the invention from him, or from a person of whom he is the legal representative; or

(*b*) that the invention has been claimed in any complete specification for a British patent which is or will be of prior date to the patent the grant of which is opposed, other than a specification deposited pursuant to an application made more than fifty years before the date of the application for such last-mentioned patent; or

(*c*) that the nature of the invention or the manner in which it is to be performed is not sufficiently or fairly described and ascertained in the complete specification; or

(*d*) that the complete specification describes or claims an invention other than that described in the provisional specification, and that such other invention forms the subject of an application made by the opponent in the interval between the leaving of the provisional specification and the leaving of the complete specification, but on no other ground.

(2.) Where such notice is given the comptroller shall give notice of the opposition to the applicant, and shall, on the expiration of those two months, after hearing the applicant and the opponent, if desirous of being heard, decide on the case.

(3.) The decision of the comptroller shall be subject to appeal to the law officer, who shall, if required, hear the applicant and the opponent, if the opponent is, in his opinion, a person entitled to be heard in opposition to the grant of the patent, and shall decide the case; and the law officer may, if he thinks fit, obtain the assistance of an expert, who shall be paid such remuneration as the law officer with the consent of the Treasury may determine.

12.—(1.) If there is no opposition, or, in case of opposition, if the determination is in favour of the grant of a patent, a patent shall, on payment of the prescribed fee, be granted to the applicant, or in the case of a joint application to the applicants jointly, and the comptroller shall cause the patent to be sealed with the seal of the patent office.

(2.) A patent shall be sealed as soon as may be, and not after the expiration of fifteen months from the date of application, provided that—

(*a*) Where the comptroller has allowed an extension of the time within which a complete specification may be left or accepted, a further extension of four months after the said fifteen months shall be allowed for the sealing of the patent:

(*b*) Where the sealing is delayed by an appeal to the law officer, or by opposition to the grant of the patent, the patent may be sealed at such time as the law officer may direct:

(*c*) Where the patent is granted to the legal representative of an applicant who has died before the expiration of the time which would otherwise be allowed for sealing the patent, the patent may be sealed at any time within twelve months after the date of his death:

(*d*) Where in consequence of the neglect or failure of the applicant to pay any fee a patent cannot be sealed within the period allowed by this section, that period may, on payment of the prescribed fee and on compliance with the prescribed conditions, be extended to such an extent as may be prescribed, and this provision shall, in such cases as may be prescribed and subject to the prescribed conditions, apply where the period allowed for the sealing of the patent has expired before the commencement of this Act.

13. Except as otherwise expressly provided by this Act, a patent shall be dated and sealed as of the date of the application: Provided that no proceedings shall be taken in respect of an infringement committed before the publication of the complete specification.

14.—(1.) A patent sealed with the seal of the Patent Office shall have the same effect as if it were sealed with the Great Seal of the United Kingdom, and shall have effect throughout the United Kingdom and the Isle of Man.

Provided that a patentee may assign his patent for any place in or part of the United Kingdom, or Isle of Man, as effectually as if the patent were originally granted to extend to that place or part only.

(2.) Every patent may be in the prescribed form and shall be granted for one invention only, but the specification may contain more than one claim; and it shall not be competent for any person in an action or other proceeding to take any objection to a patent on the ground that it has been granted for more than one invention.

15.—(1.) A patent granted to the true and first inventor shall not be invalidated by an application in fraud of him, or by provisional protection obtained thereon, or by any use or publication of the invention subsequent to that fraudulent application during the period of provisional protection.

(2.) Where a patent has been revoked on the ground of fraud, the comptroller may, on the application of the true inventor made in accordance with the provisions of this Act, grant to him a patent in lieu of and bearing the same date as the patent so revoked:

Provided that no action shall be brought for any infringement of the patent so granted committed before the actual date when such patent was granted.

16.—(1.) Where the same applicant has put in two or more provisional specifications for inventions which are cognate or modifications one of the other, and has obtained thereby con-

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current provisional protection for the same, and the comptroller is of opinion that the whole of such inventions are such as to constitute a single invention and may properly be included in one patent, he may accept one complete specification in respect of the whole of such applications and grant a single patent thereon.

(2.) Such patent shall bear the date of the earliest of such applications, but in considering the validity of the same and for the purpose of the provisions of this Act with respect to oppositions to the grant of patents, the court or the comptroller, as the case may be, shall have regard to the respective dates of the provisional specifications relating to the several matters claimed therein.

(To be continued.)

Reports of Companies.

EUROPEAN PETROLEUM COMPANY, LTD.

The report for the year 1907 states that the profits for the year have amounted to £75,438.; interest on debentures, etc., absorbed £43,185., leaving £32,253. The leases of two properties at Baku expired, one of which has been renewed, whilst the lease of another plot has been acquired. The Hora concession, on the shore of the Sea of Marmora, has been finally abandoned, as oil was not found in paying quantities. The board propose that a sum of £70,000. should be added to the depreciation and renewal reserve, and after this provision has been made there will be a debit balance on the twelve months of £37,746. 18s. 3d. The net production of crude oil from the properties at Baku during the twelve months has amounted to 5,412,062 poods. As compared with the previous year, these figures show a small increase of 71,531 poods, but as compared with the twelve months ended May 13, 1905, the decrease amounts to 4,830,826 poods. During the year under review, the disturbed conditions at Baku unfortunately continued, and for ten weeks all work was entirely suspended, with consequent serious, and in some cases, permanent injury to the wells. Since the close of the financial year the position has somewhat improved, and the production has shown a slight increase. The price of crude oil has been satisfactory, the prices realised having fluctuated between 22 and 30 copecks during the year under review. Towards the close of the financial year there was a distinct rise in freights, and all the company's steamers are now fully employed at profitable rates.

A. AND F. PEARS LTD.

The report for the year ended June 30 states that, after carrying £4,702. to depreciation fund, the net profit was £67,325.; this, with £2,089. brought forward from the previous account, makes £69,414. Deducting £26,400., the amount of the debenture interest and interim dividends on preference and ordinary shares, a balance of £43,014. remains, from which the directors propose payment of dividends for the half-year ended June 30 as follows: At the rate of 6% on the cumulative preference shares, £6,000.; at the rate of 12% per annum on the ordinary shares (making 10% for the year), £15,600.; at the rate of 10% per annum on the deferred ordinary shares outstanding on June 30, £15,000; the balance, £6,414., is to be carried forward.

THE SILVER FIELDS OF COBALT.

THE silver deposits of Cobalt, in Northern Ontario, Canada, which have recently attracted a good deal of attention, have been investigated by a special correspondent of the *Investors' Guardian*. According to his report, the richness of the ore is beyond question, and shafts, sunk beyond the conglomerate area, prove that the deposits continue in character and value. In one case the vein goes down vertically, and assays 1,450 ozs. silver, 4% cobalt, and 2% nickel to the ton. From this and from an underhand stope, 40 ft. deep (alongside the shaft) some 125 tons of first-class ore has already been shipped realising $110,000., thus affording proof that the silver-cobalt ores are not confined to the conglomerate formation surrounding the Cobalt Lake.

This silver-bearing area lies in a line of country some 40 miles long as the crow flies, and permeates three different formations; it seems, therefore, very improbable that these veins will die out at any shallow depth. The La Rose mine at Cobalt Lake proves this in a most unmistakable manner. Its main shaft is now down 300 ft., with levels at 90, 190, and 300 ft., on a rich vein varying from six inches to 30 inches in width. The mine has already shipped over $1,500,000. worth of silver ore, all of which has been derived from the work of developing the mine only. The value of the ore developed and blocked out in readiness for mining proper is enormous, and is stated to be not far short of $20,000,000.

One of the remarkable features of the mining around Cobalt Lake is that the cost of the erection of mining plant has been paid for by ore gained in the process of development. The report states that there can be no doubt as to the future prosperity and development of the mines in this district. The correspondent concludes:—This Northern Ontario camp will be the greatest silver-mining camp that has ever existed. Further, these mines cannot fail to be a factor of great importance to the increase of Canada's revenue and population.

TRADE OF SMYRNA IN 1906.

IN his report on the trade of Smyrna, 1906, Mr. B. A. Altintop, of the British Consulate-General, states that during the year 1906 high prices were obtained in Smyrna for most products. The same cannot, however, be said of dealers and shippers. The risky venture of forward sales compelled them, in order to meet their engagements, to purchase at prices considerably higher than those they had contracted to deliver at; this has led to several failures in which some British houses were involved.

After a somewhat chequered career full of incidents, the new tariff, increasing the customs import duty from 8 to 11%, *ad valorem*, definitely came into force on July 12, 1907, the collateral reforms, on the introduction and loyal observance of which the acceptance of the new tariff by the Powers was made conditional, having been formally decreed. In the meantime, the following improvements in the customs service have taken place in the last 12 months:—(1) A slight reduction in the tariff of porterage dues; a substantial increase of the staff. (2) A more rational application of the "ardiyeh" (storage) charges. (3) Some abridgment or simplification of formalities. (4) Facilities are given for commercial travellers' goods which have been assimilated to goods in transit. All goods entering Turkey may claim this treatment within six months of their importation, subject to the observance of certain formalities for purposes of identification and control.

According to the report from the British Consulate-General, Two factories for dyeing yarns have been started. Both are British, though the machinery is German, and German workmen are employed for the technical work.

Two factories for extracting oil by chemical process from crushed olive stones have been started. This oil is used in the manufacture of soap.

Noticing that most of the dyes and colouring substances used in the carpet industry were imported from Germany, the Consulate-General of Smyrna consulted the head of one of the most important local British manufacturers of carpets for an explanation of it. He stated, and his statement has since been confirmed by another British manufacturer of Smyrna carpets, that of the dyes used in the carpet industry two-thirds are German and one-third French. They are both better and cheaper than similar British products. "The German manufacturers either visit the district personally or send their agents, who penetrate into the chief centres of the interior where carpets are manufactured, show their dyes to our men and teach them how to employ them. I never saw a British manufacturer or his travelling agent here in Smyrna. We know that the best dyes are German. I myself are using them, and find them excellent. As for the samples and patterns in a book published by a dye manufacturing firm in the United Kingdom and sent to a carpet manufacturer, he affirmed that most of the dyes of which samples were given were German dyes imported into the United Kingdom. The same authority gave also the names of two German manufacturers who had personally visited Smyrna and the carpet industry centres in the interior, and had established solid business connections. A certain amount of native colouring substances, such as valonea, yellow berries, madder root, etc., have also to be used in subdueing colours, etc. Indigo (natural), until a few years ago, used to be imported exclusively from India, but

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within the last few years German synthetic indigo has been replacing the natural article.

Exports of Chemicals and Drysalteries.

The following were the chief exports from Smyrna during 1906–05 :—

	Tons, 1906	Tons, 1905.
Antimony	1,036	188
Beeswax	165	173
Bones	652	808
Emery	—	13,182
Gall, nuts	567	253
Gums, Arabic	60	44
,, Mastic	5	1
,, Tragacanth	44	59
Madder root	196	86
Manure (dried blood)	55	80
Masticha (alcohol)	153	189
Olive stones	3,316	6,035
,, oil	1,155	3,992
Scammony	2	2
Sesame	2,452	1,181
Soap	322	288
Tobacco	2,781	3,248
Valonea	49,755	64,830

Imports.

Imports for the same were as follows :—

	Tons, 1906.	Tons, 1905.
Alcohol	2,229	1,662
Candles	71	57
China and Earthenware	372	370
Cement	2,126	2,799
Copper	291	255
Dyes and colours	373	342
Dyes and chemicals	371	264
Indigo	4	7
Lead	311	334
Leather	510	433
Matches	390	492
Naphtha	24	18
Oil (machine)	335	866
Petroleum	18,816	17,307
Potash	515	981
Soap	261	203
Starch	262	246
Tin	345	367
,, in bars	67	53
Zinc	172	180

MITYLENE.

Olive Oil—A good trade was done in olive oil during 1906 for local consumption by soapmakers; the oil was of fair quality and the principal outside customers were again Turkey, Bulgaria and Roumania. The average price for current quality was from £30. 15s. to £31. 15s. a ton; extra fine qualities for table use kept very high, £48. a ton being paid for small quantities. The yield of oil from the crop maturing at the end of 1905, estimated then at 12,700 tons, turned out actually 16,800 tons, valued at £392,000.; the crop maturing at the end of this year is estimated to yield 13,400 tons of oil.

Soap.—In the soap trade the following exports have taken place during the last three years from the port of Mitylene :—1904, 60,000 bags (of 1½ cwt. apiece); 1905, 50,000 bags; 1906, 55,000 bags. The export from the whole island was 150,000 bags, or 220,000 cwts. Bulgaria was a large buyer of Mitylene soap in 1906.

Valonea.—The crop of valonea in 1906 amounted to 2,000 tons, of better quality than in 1905; prices averaged £8. f.o.b., for unpicked. The exports of this article amounted to 450 tons.

SCIO.

Very little direct trade is done with Europe. The merchants of Scio generally buy their goods from Smyrna, Constantinople, or the Piræus, on account of the long credit and other facilities obtainable there. German and Austro-Hungarian articles, though of inferior quality, are preferred by local merchants to British goods on account of their cheapness. The chief articles of export are :—Gum mastic, to Austria-Hungary, Egypt, France, £10,000.; olives and olive oil, £39,500.

THE REVENUE RETURNS.—The exchequer returns from April 1 to October 19 show :—Receipts £71,911,254., as compared with £71,869,847. in the corresponding period last year. The expenditure was £76,530,354., against £77,713,392.; and the balances £2,916,089., against £3,989,087.

Continental Notes.

IN the *Chemiker-Zeitung* for October 5, H. Kreis writes on the examination of brandies. In order to ascertain whether these beverages have been adulterated many authorities recommend tasting by an expert, but there is great difficulty in finding a man who can give a really reliable opinion upon any sample that is presented to him. As regards chemical tests, the determinations of the extract, furfurol, and aldehyde, although they may give results of some interest, do not yield data from which a definite opinion can be formed. The only constituent that in genuine brandies only varies within narrow limits is the fusel oil, or higher alcohols. For this purpose the author recommends a method which is a modification of the one that was proposed some years ago by Komarowsky. A sufficient quantity of the brandy is heated for half an hour under an inverted condenser, in 40% aqueous solution with 5% caustic soda, and is then distilled down to a small bulk. If the brandy contains fruit extract, however, there must be a preliminary distillation to eliminate this constituent. The distillate from the soda distillation is made up to exactly 30% by volume, and the higher alcohols are estimated colorimetrically. For this purpose 5 cc. are placed in a stoppered cylinder, with 0.5 cc. of a freshly prepared 1% alcoholic solution of salicylic aldehyde, and 10 cc. of concentrated sulphuric acid are added. The cylinder is then shaken and allowed to cool. The colour is compared with that given by a sample or samples containing a known amount of higher alcohols.

In the same issue Dr. Anton Seyda continues his observations upon chemical cleaning. The articles of clothing are sorted according to the nature of the material, scrubbed with dilute solution of saponin, and then treated again in the washing machine, where they are then rinsed with the solvent until it runs away clear. The solvent is afterwards recovered by distilling it with steam and allowing it to settle out from the water. The articles are then wrung out in a centrifugal machine and dried, either in special stoves, or preferably in the open air. The benzine is best kept in iron reservoirs, the space above the liquid being filled with carbon dioxide. Specially delicate articles, such as lace, must be treated with special care. It is only in exceptional cases that this treatment with saponin and benzine is sufficient to cleanse the articles adequately; generally there are spots that have to be dealt with by other means. Substances that are insoluble in benzine can often be removed with distilled water, but care must be exercised that in removing these spots the dye is not affected so as to make a stain. In the case of a mark made by spilling sugar solution on a dark blue silk dress, a satisfactory result was achieved by treating with a mixture of acetic acid and water specially suited to the material. Chemical cleaning is most useful for silk and woollen goods, but not so much as for cotton; it readily removes dirt that is on the surface, does not attack so well foreign matter that has been absorbed into the fibres. Rust marks are removed by boiling in a sulphuric-acid bath, in a copper vessel in which there is also a piece of zinc wrapped up in linen. The author also recommends for this purpose a 10% acetic acid solution saturated with oxalic acid. Where other methods fail it is necessary to have recourse to bleaching, and for this purpose potassium permanganate is generally used. For subsequently dissolving out the precipitated manganese dioxide use is made of sulphurous or hydrosulphurous acid, or hydrogen peroxide. The author closes his paper with some remarks on the importance of chemical cleaning from the point of view of hygiene and economy.

To the issue of October 9 Dr. C. R. Böhm contributes the second portion of his paper on the conductivity of certain carbides and the early stages of the metal filament lamps. In this he gives an account of the work that has been published by various workers on lamps made from the carbides of zirconium, boron, titanium, and other metals.

In the same number Dr. F. Erban and Dr. A. Mebus publish some studies on the neutralisation of acid diazo-solutions.

Crystallised platinum forms the subject of a communication by Dr. Fr. Limmer to the issue of October 12. It has been observed by different chemists that under certain conditions platinum compounds, when heated, leave residues of platinum in the form of small shining octahedra. From his investigations, Limmer has come to the conclusion that finely divided platinum, when heated by itself for a prolonged period, has the tendency to become crystalline. Certain of the chlorine compounds of platinum, however, show a very marked tendency to yield

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crystals of the metal when heated, although this is not the case with platinum chloride or the platinochlorides of hydrogen and ammonium, but this may be due to the fact that these compounds decompose very rapidly.

In the same number O. Vogel writes on the history of wood distillation, and gives some details of a very early plant for this purpose that was already in operation in 1825 at a silver smelting works at Freiberg. The appliances were of course very primitive as compared with those now in use.

Our Book Shelf.

Glues and Gelatines: A Practical Treatice on the Methods of Testing and Use. By R. Livingstone-Fernbach. Pp. 208. London: Archibald Constable and Co., Ltd. 10s. 6d. net.

In the work under review the author has attempted to provide a practical treatise on the testing and examination of glue and gelatine; he has also endeavoured to acquaint the consumer with the methods employed by representative American manufacturers in grading and distinguishing between glues, and with the considerations governing their valuation. In his preface the author points out that although the subject of glue is by no means unrepresented in technical literature, it has been dealt with chiefly from the standpoint of manufacture; while the intelligent testing of glue has been given scant consideration. He observes that although fifty million pounds weight of glue are consumed annually in the United States, he considers it safe to assert that 80% of the users of this substance have only the vaguest conception of its properties, and are guided largely by the manufacturer or dealer in the selection of their supply. In the main their confidence is not abused, but in many instances they are the victims of unscrupulous salesmen, and it is to afford the uninitiated consumer a rational means of protection that the present work has been designed.

The first chapter deals with the nature, properties and sources of glue, and with the principles of manufacture. The classification and testing of glues is dealt with in Chapter II. Chapter III. deals with the analysis of glues and gelatines; Chapter IV. with glue and gelatine substitutes; Chapter V., foreign glues; and Chapter VI. the selection of glues for various industries. Chapter VII. describes how glue should be used, while in Chapter VIII. the commercial and legal aspects of the trade are considered. Chapter IX. comprises a collection of manufacturing recipes, and analytical methods are described in Chapter X. An appendix of 20 pages completes a very useful volume which should be in the hands of all glue consumers.

The Bacteriological Examination of Disinfectants. By W. Partridge, F.I.C. With a preface by Major C. E. P. Fowler, D.Ph., F.R.C.S. Pp. 66. London: The Sanitary Publishing Co., Ltd. 1907. 2s. 6d., net.

In our last Special Issue we described at some length the Rideal-Walker method for the standardisation of disinfectants—a subject which for some time has been attracting attention. In the book before us the author's object has been to deal with the various methods at the disposal of the analyst and bacteriologist in ascertaining the relative values of disinfectants. Mr. Partridge favours the employment of the Rideal-Walker process, which, as we pointed out in the article already referred to, is being adopted very extensively for the purpose of standardisation, and a considerable portion of the little volume is devoted to this method. Incidentally the author explains some of the causes of discrepancies in results obtained by different workers by the Rideal-Walker method. A very full and detailed description of the method of operation is given, and we have no doubt that this will do much to remove the apparent difficulty of the process. Chapters dealing with the influence of organic matter on disinfectants and on their properties and selection are included, while a preface by Major Fowler, R.A.M.C., deals with the present position of the movement towards standardisation.

"Concrete and Constructional Engineering." Sepember.

The September number of *Concrete and Constructional Engineering* contains the revised British standard specification for Portland cement—a specification which is of great importance to all cement manufacturers. There are also articles on reinforced concrete wharves and quays, the laws of proportioning concrete, and concrete-mixing machines, together with descriptions and illustrations of the latest applications of reinforced concrete. An editorial note deals with the packing of Portland cement, and it is pointed out that in the revised British standard specification and also in the report of the Reinforced Concrete Committee it is required that cement shall be delivered in packages marked with the manufacturer's name. The importance of this provision requires no additional emphasis.

Metric Weights with English Equivalents. By M. P. McCartney. Pp. 83. London: E. and F. N. Spon, Ltd. New York: Spon and Chamberlain. 1s.

This little book will be found useful for all purposes where the reduction of metric weights is required. The tables have been arranged on the basis of 1 gramme = 15.432 grains, and one kilogramme = 2·2046 lbs., and all calculations have been carried to the fourth decimal place. An additional table gives the values in troy weight, and the avoirdupois weights have been extended to the nearest quarter of 1 lb. minus. The tables are intended for commercial purposes, and will be found extremely useful.

Metropolitan Borough of Poplar: Annual Report for the Year 1906. By F. W. Alexander, Medical Officer of Health. London: G. Morrish. Pp. 223.

The annual report of the Medical Officer for the Metropolitan Borough of Poplar contains the usual statistical and other information to be found in such reports, but a very uncommon feature, to which we would call attention, will be found on pages 70-76. The Poplar authorities have in operation a plant for the electrolytic manufacture of disinfectant, and the present report contains a statement respecting the working of the plant. In an early issue we hope to refer at greater length to this interesting experiment.

E. Merck's Annual Reports: Vol. 20, 1906. Pp. 264. Darmstadt and London.

We have already expressed in these columns our appreciation of the high quality of the annual review of new therapeutic preparations which is issued from Merck's well-known laboratory at Darmstadt. The volume, which comprises no less than 264 pages of literary matter, is of great value to all interested in pharmacology and therapeutics, and will be sent free to any of our readers who care to apply for a copy to the firm's London house, 16, Jewry-street, E.C.

Books Received.

Chapters on Papermaking. Vols. 3 and 4. By Clayton Beadle. Pp. 134 and 156. London: Crosby Lockwood and Co. 1907. 5s. net, per vol.

Cotton Finishing. By the Editors of the *Dyer and Calico Printer*. Pp. 185. London: Heywood and Co., Ltd.

The Glasgow and West of Scotland Technical College Calendar, 1907.

Aluminium and Platinum Movements in Russia.—In a review of the metal trade, the *Torg. Prom. Gazeta* observes that the importation of aluminium into Russia fell to 7,000 poods in the first half of this year, against 24,000 poods in the corresponding period of 1906. The tendency on the part of platinum, according to advices from the Urals, says the same authority, is distinctly downward. The exportation of this metal, according to Customs returns, has fallen from the level of 156 poods in 1906 (the first six months) to 90 poods in the first six months of this year.

The Faraday Society.—An ordinary meeting will be held on Tuesday, October 29, at 8 p.m., in the Library of the Institution of Electrical Engineers, 92, Victoria-street, S.W. The following papers will be read:—"On the Electrolysis of Salt Solutions in Liquefied Sulphur Dioxide at Low Temperatures," by Bettram D. Steele, D.Sc. "Note on the Action of Aluminium Powder on Silica and Boric Anhydride," by Frank E. Weston, B.Sc., and H. Russell Ellis, B.Sc. "Reduction of Metallic Oxides by Means of Calcium Hydride," by F. Mollwo Perkin, Ph.D., and Lionel Pratt. Mr. N. T. M. Wilsmore, M.Sc., will exhibit a series-parallel lamp resistance useful for electro-chemical work. The Secretary will be glad to receive contributions to the discussion from those unable to be present at the meeting.

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Analytical Notes.

ON THE COMPRESSION OF GASES BY MEANS OF HYDRAULIC APPARATUS.

By J. E. Petavel, M.Sc., F.R.S.

[*A paper read before the Manchester Literary and Philosophical Society. Reprinted by permission of the Society from the "Manchester Memoirs."*]

I.—*On the Compression of Small Quantities of Pure Gas.*

In the course of experimental work it is occasionally desirable to compress small quantities of very pure gases. For this purpose the ordinary gas compressor is unsatisfactory. Not only is it difficult to obtain a compressor which will deal with less than a thousand litres at a time, but there always is a serious risk of contamination by a slight inleak of air, by admixture with the previous contents of the pipes and cylinders, and by the vapours given off by the heated leathers and stuffing boxes. A brief description of an apparatus for compressing a few litres of a pure or rare gas to a high pressure may therefore be of some interest.

The general scheme will be easily understood by reference to the illustration.

"*A*" is a glass bell jar of one or two litres capacity which is connected to the generating apparatus through the stopcock *a*, and to the compressing plant through the valve *b*. The liquid used in this gasometer is glycerine, which has a low absorbing power for most gases.

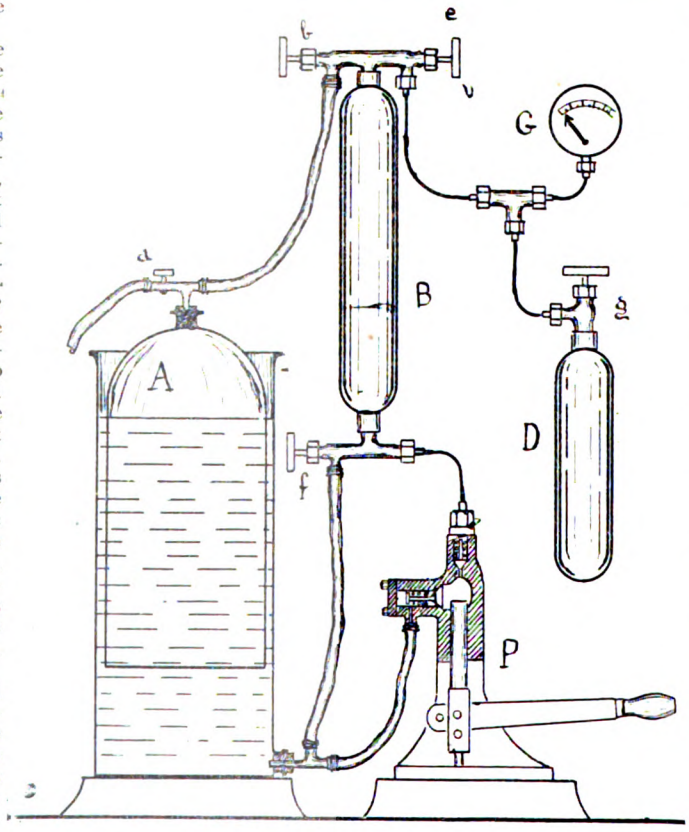
The compression cylinder *B* is of steel of about half a litre capacity. Its upper end is connected, as mentioned above, to the bell of the gasometer and also to the gauge *G* and storage cylinder *D*, the latter outlet being closed by the valve *e*. The lower extremity of this cylinder communicates on the one side with the hydraulic pump *P*, on the other with the gasometer through the valve *f*.

As compared with the ordinary compression plant,* this apparatus has the advantage of simplicity, complete safety, and relatively low cost.

For the gasometer an inverted glass bell jar will be found convenient. It is connected to the compression cylinder and pump by rubber tubes. No motive power is required, and almost any form of hand-worked hydraulic pump can be used. The compression cylinder and storage cylinders are of weldless mild steel ¼ or ½ inch thick according to the working pressure required, and can be obtained from the manufacturers who supply the commercial gas cylinders. The high-pressure valves and cone couplings are of the type previously described.† For connecting the various parts of the apparatus, flexible copper tubing of about ⅛in. external diameter and $\frac{1}{16}$ in. bore is employed.

With regard to the method of operating, a few words will suffice. The gas coming slowly from the generating apparatus passes through such purifiers as may be necessary, and accumulates in the gasometer. From time to time it is compressed into the storage cylinder in the following way:—

The valves *b* and *f* are first opened, allowing the gas to displace the glycerine contained in the compressing cylinder; they are then closed again and the valve *e* opened. The pump is now worked, forcing in the glycerine and compressing the gas. When the gauge indicates a pressure equal to that of the storage cylinder, the valve *g* is opened and the gas allowed to enter.



To avoid forcing over any liquid, the level reached by the glycerine in the gasometer when the cylinder *B* is full has been previously noted. The quantity of gas remaining in the compression cylinder can also be estimated by temporarily closing the valve *g* and noting the difference of pressure produced by a single stroke of the pump.

The system described above is convenient for dealing with gases which can only be generated at a slow rate—say, ten litres or less per hour—and pressures of 3,000 lbs. per square inch can easily be obtained with an ordinary hand pump.

II.—*Compression of Gases to very High Pressures.*

The maximum pressure for which the ordinary type of two or three-stage gas-compressor can be successfully built is about three or four thousand pounds per square inch. Above this limit, difficulties connected with the reduction of the clearance spaces, the efficient packing of the glands, pistons, etc., and the satisfactory cooling of the working parts become serious and are not easily overcome.

These troubles can be obviated by the use of hydraulic compression which has been successfully used by the author to compress gases up to ten or twelve thousand pounds per square inch.

In principle the system differs but little from the one referred to above, but the apparatus is, of course, of considerably greater strength.

When working at these high pressures, it is convenient to eliminate the generating plant and gasometer, and to fill the receiver *B* with gas previously compressed and stored. The quantity of gas dealt with at each operation may thus be increased a hundredfold or more, and the amount of labour involved correspondingly reduced.

Where exceptional purity is of no great importance, the compressed gas for this purpose may be obtained commercially.

For all ordinary work a hand pump will be found sufficient, and the contents of the receiver being compressed at a slow and uniform rate, no special provision is necessary for cooling the gas.

With regard to the question of safety, it is hardly necessary to point out the importance of securing the best materials and workmanship. Before use the apparatus should be carefully inspected and also tested hydraulically to double the working pressure.

* See R. S. Hutton and J. E. Petavel. *Jour. Soc. Chem. Ind.*, 1904, vol. 23 pp. 87-93.

† J. E. Petavel, *Phil. Trans.*, vol. 205, pp. 357-398.

Aluminium in 1906.—The Metal and Metallurgical Company, of Frankfurt, publish the aluminium statistics for 1906. The quantity smelted last year was 14,500 metric tons, against 11,500 metric tons in 1905, and 9,300 metric tons in 1904. In 1906 the leading producer was the United States—6,000 metric tons; France 4,000 metric tons, Germany, Austria-Hungary, and Switzerland 3,500 tons, and Great Britain 1,000 tons. These figures are only estimates. The whole world's production is in the hands of five concerns, which will not publish exact details of their operations. Nor are the figures respecting the consumption of aluminium more reliable, but the consumption per country during the last three years is given about as follows: United States of America, 5,900 tons in 1906, 4,300 tons in 1905, and 3,900 tons in 1904. France, 2,560 tons, 2,100 tons, and 1,100 tons. Russia, 800 tons, 1,100 tons, and 800 tons. Germany 2,700 tons, 2,100 tons, and 2,000 tons, and Great Britain 1,000 tons, 1,000 tons, and 700 tons, always for the years 1906, 1905, and 1904 in the order given respectively.

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Indian Notes.

THIRTY-ONE distinct species of scale insects attack tea plants in India and Ceylon, and remedies are sought.

In several of the Native States there has lately been a considerable expansion in the manganese industry, notably in Mysore, Thabua, and Sandur, and important concessions are being granted.

In Burma, at present, oil is brought down in iron oil-flats from the oilfields at Yenongyoung, Singie and Yenangyat on the Irrawaddy, to storage tanks in Rangoon. The practice will probably be discontinued in the next two years, as a pipe line of about 300 miles, from the oilfields to Rangoon, will be laid down.

Special inquiries are being made regarding new oil seeds, as owing to the introduction of methods depending on the use of solvents for the extraction of oils, it is now possible to use commercially many materials of this class which were formerly unsaleable as oil-yielding products, such as soy beans and oil cakes prepared by native methods, etc.

Schemes have been completed for the establishment of Central Research Stations and Agricultural Colleges at Poona, Lyallpur, Cawnpore, Nagpur, Bhagalpur, Coimbatore, and Mandalay; and a staff of three European specialists has been sanctioned at each. Agricultural Stations for scientific research are also to be started at Aligarh, Partabgarh, Jullundur, Bassein, and Bankipur.

The damage done to Indian wheat by the weevil is greater than usually supposed. Recent experiments with 50 weevils set free in 100 grammes of hard wheat in a glass bottle show that in three months the insects had multiplied themselves sixty times, or a yield of 3,056 weevils, and one-quarter of the wheat was destroyed in the period. In commercial practice the loss would be greater, and would probably average 20%. Remedies are sought.

The rat rampaign continues with unabated vigour, and poisoned baits account for hundreds of thousands of rats monthly. The baits are laid by "municipal rat gangs." In spite of the heavy slaughter, the numbers do not seem to decrease. It is necessary to get rid of the rat, or the rat-flea or both, before the advent of the plague. It is too late when once the epidemic has begun. The life of the plague germ is in the soil, floors, and walls of houses, and the life is of short duration.

The Quinologist to the Government of India, in explaining the loss on the pice (*i.e.*, one-twelfth of an anna, or one-twelfth of a penny) packets of quinine this year, attributes it to the small yield of quinine sulphate in the bark, which was only 2.68%. The importation of quinine, which has been coloured pink, has been prohibited in British India, so as not to be a colourable imitation of the Government quinine which is coloured pink, and is well known to every native who buys the drug in pice packets.

At the end of each year many of the Indian railway companies place their yearly contracts for the following year, for chemicals, disinfectants, wood preservatives, &c., &c. Among the railways may be mentioned the North Western Railway at Lahore, the Nizams Guaranteed State Railway at Secunderabad, Madras Railway at Royapuram, Kalka Simla Railway at Simla, Great Indian Peninsula Railway at Parel, East Indian (Calcutta), Eastern Bengal (Sealdah), Burma Railways Co. (Rangoon), Bombay Barada and Central India (Parel), Bengal Nagpur (Nagpur), Assam Railways and Trading Company (Dibrugarh), Assam Bengal (Pahartali), Oudh and Rohilcund (Lucknow), Rohilcund-Kumaon (Bareilly), South Indian (Negapatam), Southern Mahratta (Hubli), Rajputana Malwa (Ajmere), Ceylon Government Railways (Colombo), Bengal and North Western (Gorakhpur), etc. Price lists should be addressed to "The Chief Storekeeper."

LABOUR TROUBLE IN THE LIME TRADE.—A large number of men employed in the Peak District lime quarries are out on strike. The men demand an increase in wages and other concessions, which the lime firms refuse to concede.

EMMOTLAND CHEMICAL WORKS CO., LTD.—Registration has been made of a debenture dated August 23, 1907, to secure £1,300., charged on the Company's undertaking and property, present and future, including uncalled capital.

Selected Correspondence.

THE PROPOSED TECHNICAL LIBRARY IN MANCHESTER.

(*To the Editor of the Manchester Guardian.*)

Sir,—The proposal of the Manchester Chamber of Commerce as by deputation submitted to the Manchester Libraries Committee, for the provision of an adequate library for the technical requirements of the Manchester district must have come to your readers as a just and complementary arrangement with our sustained efforts in educational matters. As chairman of the Education Committee of the Lancashire County Council, whilst urging the importance of education *per se*, I have again and again drawn attention to the "wastage" in several directions, notably in the early leaving age at our secondary schools, to the detriment of the higher schools, whereby the real intention underlying our efforts—the due equipment of our "scholars" for the real work of life—is minimised. To prevent further wastage we have the proposal of the Chamber of Commerce to ensure to those who have enjoyed the beneficial training of our schools and universities the necessary information derivable from the current technical and scientific journals, which will enable them to utilise their knowledge and be kept in touch with the work of this and other countries, to their own advantage and the advantage of our country. We spend our money willingly in equipping our students for their after-career; let us not begrudge them the provision of material for such subsequent work.

It is for these reasons that I join with my colleagues of the Chamber of Commerce in urging upon the Manchester Libraries Committee the acceptance of our request, which I hope may result in the establishment of a technical library fully equipped with literature worthy of the traditions of "greater Manchester."

Yours, &c.,

Dalegarth, Chorley, Lancashire, October 16. HY. F. HIBBERT.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

H. W.—Thanks for corrected proof. The article appears this week.

D. B.—We shall be pleased to receive the article, with drawings and photo.

G. W. E.—We are forwarding another copy of our last issue, and you will receive the full number in future.

W. J.—Your letter of the 22nd respecting cyanide in Russia has our attention. Thanks for the further information.

A. P. H.—We are greatly obliged by your courtesy. You will notice that the paper appears in this issue with full acknowledgments.

J. J. G. AND SONS, LTD.—Thanks for block, which came duly to hand. The article will appear next week. We have had to hold it over from this issue.

D. B. AND CO.—Our reply to your query of the 15th inst. crossed yours of the 22nd in the post. We have taken the matter up with the Customs authorities.

G. C. CO., LTD.—We regret that we are unable to supply the desired information respecting tri-phosphate of soda. We can only suggest that you should trace the firms mentioned in the "Chemical Trade Directory."

SNEJUI CONSOLIDATED MINES LTD.—Capital. £100,000, in £1. shares. This company has been formed to prospect for, wor. and develop gold, lead, tin, wolfram, silver, copper, coal, iron and other mines, etc. No initial public issue. The first directors are to be appointed by the subscribers. Qualification, 100 shares.

NORTH HUMMOCK (SELANGOR) RUBBER COLTD.—Capital. £100,000, in £1. shares. This company has been formed to acquire, cultivate and exploit certain lands intended to be called the North Hummock Estate, belonging to the Bukit Rajah Rubber Co., Ltd., in the district of Klang, Selangor. Minimum cash subscription, 35,000 shares. First directors (not less than three nor more than six) are G. A. Talbot, H. K. Rutherford, N. W. Grieve, and A. W. Crichton. Registered office, 20, Eastcheap, E.C.

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THE DEODORISATION OF FISH OILS.

By Josef Hankam (communicated by H. Wiskemann).

(*Continued from p. 350.*)

THE use of chemical agents proved to be not quite so unfavourable, but still not permanently successful. Chloride of lime decreases the smell, but the effect is so slight that this agent is practically out of the question for general use. In the process of partial saponification of the fish-oil by means of caustic alkalies (more especially potash lye) there are certainly precipitated various albuminous and glue-like substances, but even here a lasting elimination of the smell is not attained. Moreover, the separation of the soaps formed from the fish-oil fat is a complicated operation and is not quantitatively feasible—a fact which has been repeatedly proved by my experiments on a fairly large scale. By splitting up the resulting soaps by means of acids, the fatty acids of the fish-oils are liberated, but with them there reappear the albuminous substances already mentioned, together with the objectionable smell.

The results secured by the use of hydrate of lime are likewise of no practical importance. By the action of this agent there are saponified only the free fatty acids. The substances causing the smell are not affected, and the formation of persistent emulsions considerably increases the difficulties of the operation. Moreover, the rational working of this method (which promises only scanty results) requires a complicated plant.

Treatment with concentrated sulphuric acid alone has not proved satisfactory as regards the elimination of the smell from fish oils and fish fats. The largest portion of the gluey and albuminous substances is, indeed, precipitated in the form of a tar-like mass, and a portion of the smelling substances is eliminated, but I did not succeed in thus eradicating the smell in a satisfactory manner.*

Boiling the oils with diluted acid aims only at freeing them from inorganic ingredients, and eliminating any emulsions that might form. Of chemical agents only alum and tannic acid are still of interest, but, used by themselves, they only produce results of slight importance† as regards deodorisation.

Mention may be made here of Gregor Sandberg's (Moscow)‡ method for the production of an odourless mixture of fatty acids from fish-oils and fish-fats. The bad-smelling products of decomposition of the albuminous substances and of the amines $NH_2(CH_3)$, $NH(CH_3)_2$, and $N(CH_3)_3$ are eliminated by transforming the latter into salts, soluble in water, and then by washing. According to this method the respective fish-oils and fish-fats are by any of the known processes of saponification—for instance, in the autoclave—split up by sulphuric acid, and the resulting still odorous fatty acids are subject to after-treatment. In such after-treatment the quantitative proportion and the temperature are of importance. The fatty acids, which still retain their smell, are, while being constantly stirred, and kept at a temperature of not less than 25° C., mixed with 20% or more of sulphuric acid of a specific gravity of 1.84. The temperature rises, but must be kept between 25 and 40° C., so that no fat is affected. After a few hours the reaction is finished, and there have formed soluble sulphates which can be eliminated by washing. According to this method the washed and subsequently dried fatty acids are distilled in suitable apparatus.

As regards this method of treating fish-oils and fish-fats, I would say (on the strength of my observations) that I did not succeed in obtaining tangible results. I fully agree with Mr. Sandberg's view that permanent elimination of the smell to the greatest possible extent is attainable only in the fatty acids of the fish-oils; the subsequent treatment according to Sandberg, however, disappointed me in many experiments. Even distillation of the fatty acids did not give the desired result.

According to Alexandre de Hemphinne, of Ghent,§ the fish-oils, etc., are exposed to the action of electric discharges in an aqueous atmosphere.

It has been suggested to eliminate the smell of fish-oils by potassium permanganate. The fish-oils are mixed by stirring with lime and, without heating; while constantly stirring, 4 to 5% of $KMnO_4$, is added until the latter becomes colourless.

Furthermore, calcium carbide was proposed as a means for freeing fish-oils from smell. Calcium carbide deprives substances of water and precipitates the slimy ingredients. The operation takes place in a cylindrical vessel provided with a stirrer. After filling the vessel with fish-oil, 10% of powdered calcium carbide is added. After the development of acetylene a greenish mixture occurs. As soon as the development of acetylene ceases, the oil is allowed to settle, and is filtered from the sediment.

According to Nordlinger,* salts of heavy metals, with higher grade fatty acids (for instance, lead oleate or iron stearate) are employed for the elimination of smelling substances from, and the purifying of, the fats. It is hardly likely that this patent would be adopted for practical use.

After so many trials made in this direction with the most varying combinations, it may be concluded that by chemical agents alone the desired end—viz., a product as free from smell as possible—will not be attained, and that mechanical force will be required in addition, in order to do away with the drawback in question.

(*To be continued.*)

* I will revert further on to the treatment of fish oils with concentrated H_2SO_4.

† These agents will be referred to again later. ‡ German Imp. Pat. 102,638.

§ German Imp. Pat. 169,410.

* German Imp. Pat. 58,959.

COMPANY MORTGAGES AND CHARGES.

THE following mortgages and charges have been registered:—

Alabama Portland Cement Co., Ltd.—Mortgage dated Oct. 2, 1907, to secure $10,000., charged on about 15,000 barrels of cement, and all the company's mules, waggons and carts (all at Marengo County, Alabama, U.S.A.), registered.

Bearcreek Oil and Shipping Co., Ltd.—Issue on Oct. 4, of £3,700 4½% debentures, part of series created by resolutions of various dates from June 3, 1903, to Oct. 4, 1907, to secure not more than £6. per ton upon the gross registered tonnage of the vessels in actual working at the time of borrowing, charged on the company's undertaking and property, present and future, including uncalled capital. No trustees. Previously issued of same series, £12,310.

Buxton Lime firms Co., Ltd.—Issue on Sept. 26, of £20,000. 5% debentures, part of series created Nov. 19, 1891, to secure £200,000, charged on the company's undertaking and property, present and future, including uncalled capital. Previously issued of same series, £152,800.

Durban Oil and Soap Co., Ltd.—A notarial bond or mortgage dated Oct. 31, 1906, to secure £10,000., was filed on the 4th inst., pursuant to an Order of Court. Property charged: The company's stock of soap, manufactured or in course of manufacture, and oils, oil cakes and materials used in the manufacture thereof, wooden boxes, packing cases, etc. A notarial bond or mortgage dated May 4, to secure £25,000., and as collateral security thereto a mortgage bond dated May 22, 1907, were also filed on the same date, pursuant to said order. Property charged (by notarial bond): As above, together with all goods purchased or imported by the company, all bills of lading or documents of debt representing goods in transit; all book debts, present and future, the goodwill of the company's business, and all its buildings, furniture, plant, fittings, etc. (By collateral mortgage bond): Seven pieces of land, forming part of the Farm Wentworth, Durban, together with all buildings which are or may be erected thereon, and all moneys derivable therefrom.

Sussex Portland Cement Co., Ltd.—Re-issue on Oct. 4 (for five years) of £2,600. 4% debentures, part of series created Oct. 22, 1885, to secure not more than 25% of the nominal share capital for the time being issued, charged on the company's undertaking and property, present and future, except uncalled capital. No trustees. Previously issued of same series, £23,100.

Legal Departments in Business Establishments.—A correspondent writes:—The employment of lawyers in business offices is growing more and more. Last year the Birmingham Small Arms Co. engaged a rising city solicitor to organise a department to look after their legal and patent work. Now Brunner, Mond and Co. are moving on similar lines. In last week's *Law Times* they advertise for a solicitor (honoursman) "Not to take the place of their ordinary solicitors, but to do various legal and secretarial work in connection with the Company." All over America the legal department is a prominent feature of business life. No doubt it will be so here in time. One of the difficulties at present is the comparatively high salaries commanded by the men who have sufficient executive ability and organising skill.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Gas Absorption Apparatus. G. Eschellman, A. Harmuth, and Ges. Der Tenteleu'schen Chemischen Fabrik. 22,095. October 7.

Disintegrating, Separating, and Feeding Substances into Machines. R. C. Dickson. 22,111. October 7

Improvements in Isobornyl Esters. Chem. Fab. von Heyden Akt. Ges. 22,129. October 7.

Fertilising Compounds. J. T. M. Fraser-Hewitt. 22,180. October 8.

Nitrogen Oxides. F. Spitzer. 22,201. October 8.

Tanning Material. G. Engländer. 22,207. October 8.

Electric Furnace for the Continuous Extraction of Zinc from its Ores. E. F. Côte and P. R. Pierron. 22,283. October 9.

Treatment of Tar. A. Gutensohn. 22,298. October 9.

Smoke-Consuming Apparatus. F. Land and H. Land. 22,331. October 10.

Magnetic Separators. G. T. Meek. 22,523. October 12.

Electrodeposition. S. O. Cowper-Coles. 22,543. October 12.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Treatment of Terpenes. Rouxeville. 17,773.

Artificial Fuel. Robertson and Graham. 20,281.

Thermometers. Kent. 21,438A.

Deposition of Alloys by Electrolysis. Wheatley and Lark. 22,002.

Extraction of Tin from Ore or Oxide MacIvor and Fradd. 22,162.

Separation of Zinc from its Ores or Compounds. Sulman. 22,534.

Production of Fatty Acids. Thompson 24,234.

Purification of Tantalum. British Thomson-Houston Co. 24,234.

Electrolytic Deposition of Metals. Cowper-Coles. 24,985.

Caoutchouc. Alexander. 25,735.

Soap Powder. Bacon. 27,701.

Red Colour Lakes. Bloxam. 28,984.

1907.

Tartaric Acid McDougall and McDougall. 4,613.

Mixing Liquids and Gases. Leuschner. 5,189.

Monosulphonic Acids of Para-diaminourthrarufine and of Para-diaminochrysazine Newton (Farbenfabriken vorm. F. Bayer & Co.) 5,811.

Bromo-derivatives of Indigo. Imray (Society of Chem. Ind. in Basle). 6,105.

Vat Dyestuffs. Imray (Society of Chem. Ind. in Basle). 6,106.

Deodorising and Desulphurating Mineral Oils. Hellsing. 9,180.

Hydro-Extractors. Collon and Tabard. 20,200.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements relating to Apparatus for Automatically Analysing Mixed Gases and Recording the Percentage therein of one of the Gases. W. S. Hubbard, Kent Street Works, Leicester. British Patent, 19,513. September 1, 1906.

The claims of this specification are:—(1.) In an apparatus continuous in action for automatically analysing and recording intermittently the proportion of one gas in a mixed gas, and affording indication by which the character or quality of the mixed gas can be gauged, wherein a vertically reciprocating body makes a definite stroke, and operates a measuring vessel and a re-measuring vessel with means attached for recording the percentage of gas absorbed in the absorbing vessel, relative to the first measured quantity, means whereby a quick definite stroke is imparted to a valve slide over face of valve, with connections for controlling the direction of the gases to be analysed in the apparatus. (2.) In an apparatus as claimed in Claim (1) the combination of a vertically reciprocated body adapted to actuate a body or counterpoise pivoted for vertical swing, a cam which moves with the counterpoise and provides a lock and release motion to means by which a slide is caused to move over the face of a valve controlling the direction of gases from the flue to pump, thence into air and exact measuring vessel, through absorber to remeasurer with means for recording on a diagram the quantity of gas absorbed. (3.) In an apparatus of the character described in Claim (1) a valve provided with nozzles, a connection to one of the said nozzles through which gas is drawn or sucked from a flue or other source, and nozzles to connect the valve with the pump, measuring vessels, and gas-absorbing vessels, and a slide automatically moved a definite stroke, by which the ports on the face of the slide open the ports on the valve to change the course of the gases. (4.) In an apparatus of the character described in Claim (1) a slide valve having means of connection with the chimney or draught to keep the gases moving so that the sample is always fresh.

Improvements relating to the Manufacture of Camphene. J. N. Goldsmith, of the Xylonite Works, Brantham and the British Xylonite Company, Limited, also of Brantham. British Patent, 21,180. September 24, 1906.

This invention relates to the manufacture of camphene, the chief object being to enable this substance to be prepared from pinene hydrochloride in a simple and efficient manner. It is well-known that the preparation of camphene has been effected by heating pinene hydrochloride with ammonia, amines, or soap under high pressures. It has also been proposed to manufacture camphene by melting pinene hydrochloride with alkali phenate or boiling with an aqueous solution of an alkali salt of naphthol or other phenols. The inventors have found that camphene may be produced by employing salts of phenols in non-aqueous solutions, such as alcoholic solution.

According to the invention, camphene is prepared by heating pinene hydrochloride with a salt or salts of naphthol or other phenols in non-aqueous solution. Salts of alpha-naphthol or beta-naphthol may be employed, or salts of either of the three cresols, namely ortho-, meta-, or para-cresol, or mixtures of any of these compounds. For the purpose of the invention, pinene hydrochloride, beta-naphthol and caustic soda may be heated together in alcoholic solution and under normal or other appropriate pressure. In place of caustic soda and beta-naphthol, the sodium salt of beta-naphthol or other phenols, may be employed. When the reaction is complete the alcohol may be distilled off, a certain amount of camphene and water distilling over at this stage. The remaining camphene is driven over by steam or may be extracted by a liquid such as petroleum spirit. The alcohol may be recovered and used again. The beta-naphthol may be also recovered and used again together with the solvent for converting a fresh quantity of pinene hydrochloride into camphene.

As above stated, it has before been proposed to heat potassium phenate with pinene hydrochloride for the production of camphene. Other salts of phenols, as, for example, the sodium salt of beta-naphthol, may be employed in a dry state, that is to say, they may contain so little water as to be in a hard solid condition at the ordinary temperature.

Improvements in Gas Generators. J. G. L. Bormann, Schluterstrasse 28, Charlottenburg. British Patent, 10,226. May 2, 1907.

The invention relates to those generators in which the production of combustible gases is effected by the admission of the air required for combustion into the upper part of the generator shaft, whilst the complete gasification of the coal at the lower end of the generator shaft is effected by means of the introduction of steam. Hitherto in generators of this kind the eduction flues, through which the combustible gas formed is conducted out of the generator, were made very narrow and arranged in the walls of the generator shaft without any provision for cooling. Hence arose the drawback that these flues readily became choked up by the ashes and coke particles carried along with the gas, and that in particular the inside outlets of these flues were blocked up by the clinker and coke caking firmly on the hot walls of the generator shaft.

The subject matter of the present invention is to obviate this effect by an improved form of the gas eduction flue and the provision of an extensive cooling arrangement of the lower parts of the generator shaft containing the gas eduction flue. For this purpose the apertures of egress and the eduction flue for the combustible gases are made as wide as possible, and are built into a ring-shaped water boiler which surrounds on all sides the lower part of the generator shaft. In order to avoid the accumulation of steam in this water boiler the top part of the latter is made to slope steeply up towards a steam-collecting reservoir fitted above, preferably at the side. The steam boiler may conveniently be divided into several ring-shaped parts adapted to the shape of the generator and the eduction flue, which parts have openings interconnecting them, and possess such a shape that they penetrate far into the spaces to be cooled or approach them as closely as possible, so that an effective cooling of the latter is ensured.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Oct. 23.
120,000	1	1	Bell's Asbestos ... ord	32/2
	Stock	100	Bo ax Consol 4½% deb. stock red	110
80,000	10	10	Do. 5½% cum. pref.	11¼
1,356,477	1	1	Bradford Dyers ... ord.	1 1/16 1 5/16
1,50 ,000	1	1	Do. ... 5% c.p.	11 1/16
35,000	10	10	British Dyewood ... ,,	78/-
600,000	1	1	British Oil & Cake Mills ord.	12/3
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	40/6
10,000	10	10	Do. ... 6% c.p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	5 7/16
82,678	10	10	Do. 7% pref.	16⅜ 16⅞
96,000	5	5	Bryant and May ... c.p.	12⅝
40.000	10	10	Buxton Lime Firms ord.	6 1/16 6 3/16
352,500	5/-	5/	Cassel Cyanide Co., Ltd. ,,	20/7½
450,000	1	1	Castner Kellner ... ,,	24/9
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¼ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J , and Sons c.p	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	27/9 28/3
5,000	10	10	Do. 6% c p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	93½ 94½
50,000	10	10	India Rubber Co. ... ,,	15
	5	5	Lagunas Nitrate ... ,,	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11¾ 12¼
200,000	10	10	Lever Bros. ... 5% c.p.	11
400,000	10	10	Manchester Ship Canal ord.	20/6 20/9
400,000	10	10	Do. per 5% pref.	29/9 30/-
120,000	1	1	Mandelberg ... ord	31/6
185,150	1	1	Mason and Barry ... ,,	3
134,694	10	10	Nitrate Railways ... ,,	1
228,540	10	10	Nobel Dynamite Trust ,,	16
	10	10	Do. share warrants	16¼
200,000	1	17/	Oakbank Oil, Ltd. ... ord.	37/9
	1		Pears, A. and F. ... ,,	31/3
70,000	10	10	Pease and Partners ... ,,	12⅛ 12⅜
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/	Pumpherston Oil, Ltd. ,,	13¾
10,000	10	10	Do. 6% c.p.	13¼
375,000	5	5	Rio Tinto ... ... ord.	65 5/16
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
239.479	1	14/2	Sadler and Co. ... ord	4/-
200,000	4	4	Salt Union ... ... ,,	16/- 16/6
100,000	6	6	Do. ... 7% n.c.p.	4¼ 4½
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	¾ 1
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	120
45,000	10	10	Steiner, F. and Co. 5% c p.	9¼ 9⅜
625,000	2	2	Tharsis Sulphur & Copper ,,	5¾
289,343	10	10	United A kali ... ord.	73/-
282.524	10	10	Do. ... 7% pref.	11⅛ 11¼
80,000	1	1	United Indigo & Chemical ord	2/3 2/9
66,666	5	5	Willans and Robinson ,,	1¼ 1½
210,000	1	1	Woolc mbers .. 7% c.p.	19/- 19/6
113,202	4	4	Young's Paraffin ... ord.	69/6

THE RUSSIAN CHEMICAL MARKETS.

According to a report, dated October 16, the Moscow chemical market was relatively firm in tone; but little business is doing, and the quotations ruling present no special feature.

The St. Petersburg market report of October 15 observes that the preceding fortnight saw a number of changes in the prices of various chemicals. These changes were for the most part of slight importance, and consisted in both rises and falls, frequently the result of variations in the cost of metals. Although the price of copper on the London market has fallen by nearly 50%, the local price for copper salts have changed but little. The same observation in varying degree applies to zinc, tin, etc. Higher prices are noted in borax, sal ammoniac, potassium bichromate, Chili saltpetre, etc., whilst there have been declines in sulphate of copper, alum, etc. There is a livening up in tone in anticipation of early winter purchases.

NEW YORK PRICES CURRENT.

Oct. 8, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7⅝
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 6
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, October 8, 1907.

(Rate of Exchange, $4.86 = £1.)

Nitrate of soda is steady, at $2.37½. to $2.40. Sulphate of ammonia inclines to dulness, at $3.07½. to $3.10. Bleaching powders are firm but slow, at $1.25. to $1.30., as to make. Alkali and caustic soda are without quotable change. Sulphate of copper is reduced to 6c. per lb. by the syndicate, and outside makers are offering 5⅞c. per lb. White powdered arsenic is very dull, and the prices are 7c. per lb. for prompt, and 6⅞c. per lb. for shipment. Red Saxony arsenic is unchanged at 7½c. per lb. Calcined carbonate of potash, 80-85%, remains 3¾c. to 3⅞c. per lb., while hydrated is 4¼c. per lb. Caustic potash, 75%, is 4⅝c. per lb. Chlorate of soda is 8½c. per lb., and potash, crystals, 8¾c. per lb., f.o.r. makers' works. Bichromate of potash and soda are unchanged, at 8⅛c. and 7⅞c. per lb. respectively. Prussiate of soda is weak, at 9½c. per lb., and potash is dull at 15⅝c. per lb. Antimony products have been advancing: oxide is now quoted at 12c. per lb., and needle 9c. per lb., with the market slow but strong. Oxalic acid is weaker on spot at 8c. per lb.

THE LONDON METAL MARKETS.

Friday.

Copper: Standard brands, £55. 15s. to £56. cash, and £55. to £55. 5s. three months. Tin: G.M. quality, £138. 15s. to £139. 5s. cash, and £137. 15s. to £138. 5s. three months; English, £141. Lead: Soft foreign, October, £18. 15s.; November, £18. 7s. 6d.; January, £17. 13s. 9d. to £17. 15s.; English, £19. to £19. 5s. Spelter: Ordinary brands, November, £21. 15s.

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to £22.; January, £21. 10s., ex ship; hard, £18. 10s. to £19. f.o.b. Antimony, £42. to £44.; ore, £12. to £14. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £130. to £135. per ton. Wolfram, 40s. Pig-iron closing prices: Cleveland, 54s. 6d. cash; 53s. one month; 52s. three months.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with quotations given at 8½d. to 8¾d. for 90's, and 9d. for 50-90's, casks included. Crude tar, 15s. to 19s. per ton Thames; 1¼d. to 1⅜d. per gallon delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 24s. 9d. to 25s. 3d., f.o.b.; Gas Company, 27s.; East Coast, 24s. 6d. to 24s. 9d.; West Coast, 23s. 6d. to 24s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 10d. to 10½d.; pure, 1s., casks included. Carbolic acid, crude, 50%, 1s. 5½d. to 1s. 5½d.; 60%, 1s. 8d.; 75%, 1s. 11¼d. to 2s., casks included. Crystals, 39-40, 5⅜d.; 34-35, 5d. Cresylic, 95%, 1s. 1d. to 1s. 1¼d. Anthracene, 40 to 45% A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d. Sulphate of ammonia firm. Nearest values are:—Beckton, October-December, £12. 5s.; Jan.-April, £12. 7s. 6d.; Beckton terms, £12.; London, £11. 16s. 3d. to £11. 17s. 6d.; Hull, £11. 18s. 9d.; Liverpool, £12.; Manchester, £11. 17s. 6d.; and Leith, £12. 5s.; forward, £12. 7s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s. 3d., and refined, 11s. 4½d. Cargoes, off coast or due, 11s.; ditto for prompt shipment, 11s. 3½d.

FERTILISER MATERIALS.

FRIDAY.

There is no new feature to comment upon in any of the markets for manure material, manufacturers being busily occupied in the preparation of manures.

Mineral phosphates of all grades remain unchanged, raisers having sold well ahead, being for the most part indifferent about committing themselves to further contracts.

East Indian bone meal for shipment is easier, shippers now inviting offers of £4. 17s. 6d. per ton, nett, c.i.f. terms, Liverpool, 4½ and 52% quality; on spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is required.

Nitrate of soda, although still quiet, is very steady at 11s. 3d. to 11s. 6d. per cwt., according to quality, ex store.

MISCELLANEOUS CHEMICAL MARKET.

FRIDAY.

The markets generally are steady, and there have been no changes of material consequence to record during the week. In the alkali trade a good all-round demand is maintained for all the main products. Sulphate of copper remains nominally at £21. 10s. for prompt and early delivery, and £21. for spring. Caustic soda, 70%, £10. 5s., f.o.b. Liverpool. Alkali, 58%, in bags, £4. 10s., f.o.r. Bleaching powder, £4. 7s. 6d., f.o.r. and f.o.b. Chlorates, 3½d. per lb. Saltcake, in bulk, 42s. 6d. per ton, delivered to principal buyers' stations, is the price for prompt and future delivery. Prices are very firm for potash, caustic and carbonate, but there is no change during the week. Acetate of lime and all other acetates keep very steady in price, both for early and forward deliveries. Acetic acids are rather more freely offered. Oxalic acid is steady, at 3¾d. per lb. Lead salts are firm: White sugar of lead, at £31.; brown at £26. Prussiates are steady, and there is a more evident firmness in soda, at 3¾d. and potash at 5¾d. per lb. Green copperas scarce and generally dearer. Ammonia and salts of ammonia continue to realise full current quotations without difficulty.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quiet, but firm at 36s. per cwt. Logwood steady, at late prices. Cutch steady. Gum copal: Gold Coast sold at auction, 55s. to 56s. 6d. per cwt. Castor oil firm in all positions at 3¾d. for good seconds Calcutta on to January next, and 3½d. on spot; French offering at 3½d. for first pressure, and 3¼d. for second pressure. Gambier: Block, 22s. 6d. per cwt. for parcels on quay, and 23s. for store lots; October-November shipment, 21s. Cubes, 30s. per cwt., on spot, and 28s. 3d. per cwt. for November-December shipment. Shellac steady, at 147s. 6d. for fair TN orange, on spot. Glucose firm: American liquid, 43%, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 1½d., and for October-December, 9s. 7½d., c.i.f., for shipment. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 87s. to 88s.; 95%, 85s. to 86s. Tartaric acid: English, 11¼d. on spot, and foreign, 11d. Citric acid: English, 1s. 9d.; foreign, 1s. 9¼d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil firm, and in improved inquiry, sales including Benin afloat at £28. 10s., and on spot £28. 15s.; Accra, on spot and soft oils for November-December delivery £28. 15s., and the latter for December-January delivery, at £29.; Lagos, on spot, £32., and for October-November, £31. 10s., all in transit. Linseed oil firm, at 26s. 9d. to 27s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil steady, at 27s. to 28s. per cwt. for Liverpool refined in export barrels. Tallow quiet. Turpentine firmer, at 39s. 3d. per cwt. for spot parcels. Petroleum firm, at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OIL.—Seed oils, after the late advances, have maintained their positions, and are dearer by 5s. to 7s. 6d. per ton. Turpentine also is firmer. Linseed shipments here last week were only small, and crushers are only buying hand to mouth, as the anticipated crop in the Argentine is expected to be heavy. Cottonseed is fetching full prices. Egypt is shipping freely, with little offering from Bombay. Linseed imports for week are:—19,015 qrs., making total imports for year 664,367 qrs., against 477,027 qrs. last year. Rapeseed imports nil; total for year 90,184 qrs., against 98,595 qrs. last year. Cottonseed imports, 5,254 tons; total for year 269,258 tons, against 214,991 tons last year. Amongst the weekly imports are:—Margarine, 2,604 cwts.; lard, 3,985 cwts.; sugar, 13,978 cwts.; hides, 966 cwts.; colours, 997 pkgs.; wool, 414,532 lbs.; hemp, 632 cwts.; oilcake, 69 tons. Exports:—Oil, 10,214 cwts.; colours, 2,316 pkgs.; chemicals, 2,126 pkgs. Linseed oil, naked, spot, 24s. 9d.; October-December, 24s. 4½d.; January-April, 23s. 3d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports 20 tons for week, against 242 tons same week last year. Rape oil dearer; 38s. 3d. for refined. Refined cotton oil, 23s. 9d.; November-April, 23s. 6d. paid; casks £1., barrels £1. 10s. per ton extra. Total exports for the week, 89 tons, against 125 tons for the same week last year. Castor oil made here, spot, £30. 10s.; seconds, £29. 10s.; January-June, same prices. Turpentine, spot, 39s. 6d.; November-December, 40s.; January-April, 41s.; May-June, 40s. 6d.; Russian, 21s. Olive oil, Levant, £39. to £40. per tun. Linseed, La Plata, sold at 45s. 6d. to 45s. 9d., spot; September-October is 46s. 3d.; October-November, 46s. 6d.; 500 tons sold November-December, 45s. 10½d.; January-February sold 43s. and 43s. 3d. paid. Cottonseed, spot, £7. 10s. paid; passage quoted £7. 8s. 9d. to £7. 7s. 6d.; October sold £7. 6s. 3d.; November-January sold at £7. 6s. 3d.; Bombay, November-December, quoted £6. 5s. Rosins unchanged.

CAKES.—In good request, with prices unchanged and firm.

TYNE CHEMICAL REPORT.

THURSDAY.

Market continues steady, and generally there is a good demand for most heavy chemicals. Caustic soda is firm, at £10. 5s. for 70%, and £11. per ton for 77-78%. Bleaching powder, £5. to £5. 5s. per ton. Soda crystals, locally, quiet, at £3. to £3. 2s. 6d. per ton, gross weights. Sulphur firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate

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of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market is again somewhat easier, and at the moment business slow, new trade being difficult to negotiate. To-day's quotations:—Best Northumbrian steam, 15s. to 15s. 6d. per ton; second qualities, 14s. to 14s. 6d. per ton; small steam, 10s. 6d. to 11s. per ton; Durham bunker coals, 12s. 6d. to 13s. per ton; coking coals, 14s. per ton; gas coals, 14s. 6d. to 14s. 9d. per ton; household coals, 16s. 6d. to 17s. per ton; foundry coke, 22s. 6d. per ton; gas coke, 19s. to 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Thursday.

All paraffins and mineral oils continue on an evenly steady market, with some little added firmness in the section of the lubricating oils. Whale oils on Glasgow market are also steady on a range of 18s. to 25s., black to pale. The fortune of the Scottish fleet of whalers in the Arctic waters has this year been very bad—very nearly a complete failure—and with the total wreck and loss of at least one ship. The tendency, so far as it extends, points, of course, to an increased firmness on the home market. Recent improvement in sulphate of ammonia, prompt f.o.b. Leith, continues, and value now is a good £12. 5s., this price having been several times paid. Forward dealing, however, is again quieter, after £12. 5s. done as the top figure. The ordinary heavy chemicals for the most part are steady and firm, especially bleaching powder, which is well sold forward over 1908, at a fractional increase. Creosote oil firm at recent figure.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 4½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¼d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 805°, £5. 15s. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 5⅞d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £22. 10s., to £23., less 5% Liverpool, prompt.

New Companies

Bickerton Copper Mines Syndicate, Ltd.—Capital £750., in £1. shares. This syndicate has been formed to acquire the benefits and obligations of certain agreements granting options for leases of the Bickerton Copper Mines, Cheshire, to adopt an agreement with M. J. Regan, and to carry on the business of copper and general miners, prospectors, explorers, metallurgists, financiers, etc. No initial public issue. The subscribers are to appoint the first directors; qualification £50. ordinary shares.

Biskra Development Co., Ltd.—Capital £100,000., in £1. shares. This company has been formed to acquire concessions, agreements, contracts, rights and profits, belonging to Dr. J. V. R. Fauvelle or other persons, granted by the Commune of Biskra, Algeria, the Government of Algeria, the French Government and others relating to matters and operations dealing with real property and with agricultural, mining, commercial, manufacturing and colonisation ventures and other enterprises in Algeria, etc. No initial public issue. The first directors are Dr. R. Fauvelle (managing director for 10 years) and others to be appointed by the subscribers; qualification £50.; remuneration 10% of the profits in any year when 5% is paid on the shares., divisible, and £2. each per board meeting attended. Before recommending any dividend the directors are to set aside 5% of the profits to the reserve fund. Registered office, 3, East India-avenue, E.C.

Union Anti-Fouling Composition Co., Ltd.—Capital £25,000., in £1. shares. This company has been formed to carry on the business of manufacturers of anti-fouling and anti-corrosive compositions, etc. J. B. Murray is the first director; qualification 250 shares. Registered office, 24, George-square, Glasgow.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Chys.	Carboys.	Gals. Gls. or Gins.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending October 11.

Acetic Acid—

Holland,	57 cks.	W. H. Muller & Co.
,,	22	H. Lorenz
,,	10 blns.	R. W. Greeff
,,	8 pks.	& Co.
Belgium,	25 cks.	Petri Bros.
Germany,	25	Tennant's Wf.

Acetone—

U.S.A.,	£1,260	P. F. Knowlden

Alumina Sulphate—

Holland,	£400	Ohlenschlager Brs.

Ammonium Anhydrous—

U.S.A.,	£100	Fellows, Morton & Co.

Ammonia Muriate—

Holland,	£80	H. Lorenz
,,	57	A. & M. Zimmermann

Ammonium Phosphate—

Belgium,	£84	G. W. Sheldon & Co.

Antimony Ore—

Holland,	2 t.	W. H. Muller & Co.

Arsenic—

Spain,	£100	G. S. N. Co.

Barium Peroxide—

Germany,	£128	London & Rhine S. Office

Barytes—

Germany,	52 cks.	Thames S. T. & L. Co.
,,	50 bgs.	W. Harrison & Co.
,,	150	Felton & Crepin
Belgium,	160	W. Harrison & Co.
,,	111 cks.	Felton & Crepin
,,	20	J. Harrison, Ld.
Holland,	49 cks.	Jas. Gray,
,,	24	O. Lechla
,,	89	Taylor Bros.
,,	20	Perkins & Homer
,,	26	Thames S. T. & L. Co.
,,	39	A. Zumbeck & Co.

Basic Slag—

Belgium,	90 t.	J. Burstall & Co.

Benzoic Acid—

Germany,	£20	Craven & Co.
,,	2 cs.	Argo S.S. Co.

Bismuth—

Belgium,	10 t.	W. M. Smith & Sons

Bleaching Powder—

France,	2 t	R. Waters
,,	5	A. Brockwell
,,	244	Henderson, Craig & Co.

Bone Ash—

Arg. Rep.,	100 t.		Lawe's Chem. Manure Co.

Boracic Acid—

France,	180 cks.	Burton, Baker & Co.

Borax—

France,	21 t.	10 c.	Burton, Baker & Co.

Calcium Carbide—

Norway,	50 t.	Sic. Com. du Carb. de Calcium

Camphor—

France,	545 cs.	R. Warner & Co.

Caoutchouc—

France,	8 t.	15 c.	L. & I. D. Jt. Co.
Aden,	3	16	,,
Germany,	15	14	Lewis & Peat
,,	15	15	,,
,,	2	4	Propf Hay's W..

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Caoutchouc—

Straits,	5 t.	10 c.	Butler's Wf.
,,		17	S. Figgis & Co.
,,	10	12	Props. Bull Wf.
,,	4	10	Prop. Hay's Wf.
,,	1	19	Shand, Haldane & Co.
,,	3	17	L. & I. D. Jt. Co.
,,	1	16	Dickson & Co.
,,	2	5	Penang Sugar Est. Co.
Ceylon,		18	Lawrence, Boustead & Co.
,,	4	12	Prop. Hay's Wf.
,,		5	Hoare, Wilson & Co.
U.S.A.,	[3		A. Foley & Co.
Germany,	[1		Props. Bull Wf.

Castor Oil—

France,	20 cks.	Lucas & Spencer's Wf.
,,	5 brls.	L. & I. D.
,,	5 cs.	Jt. Co.
Belgium,	28	Fuerst Bros.

Caustic Potash—

Belgium,	8 dms.	G. W. Sheldon & Co.
Germany,	50	J. M. Steel & Co

Chemicals (*otherwise undescribed*)

Holland,	£5	Barr, Moering & Co.
U.S.A.,	808	R. W. Greeff & Co.
Germany,	592	T. H. Lee
Belgium,	7	J. Harrison
,,	12	Leach & Co.
Holland,	9	J. Barber & Co.
Germany,	15	Domeir & Co.
,,	14	Typke & King
,,	18	R. Herrmann
Belgium,	37	R. W. Greeff & Co.
,,	78	Typke & King
,,	30	J. Cockerill Line
Holland,	25	W. H. Muller & Co.
,,	15	Argo S.S. Co.
Holland,	11	J. M. Steel & Co.
Sweden,	12	Griffiths Wf.
Germany,	47	L. & I. D. Jt. Co.
Belgium,	5	Wilkins, Campbell & Co.
,,	20	Atkins & Nisbet
Holland,	8	R. W. Greeff & Co.
Germany,	7	H. J. Perlbach & Co.

Coal Products—

Aniline			
Belgium,	10 pks.		J. Cockerill
,,	5 cs.		Line
Germany,	12	L. & I. D. Jt. Co.	
,,	1 ck.		Leach & Co.
Carbolic Acid			
Belgium,	100 cks.		J. Owen
Pitch			
Aust.-Hung.,	150 brls.		Finkler & Co.
Belgium,	29		Fellows, Morton & Co.

Colours—

Belgium,	11 pks.		J. Cockerill
,,	39 cs.		Line
Sweden,	20 cks.		Phillipps & Graves
U.S.A.,	1 brl.		Union Ltge. Co.
France,	32 cks.		J. L. Lyon & Co.
,,	13		H. Johnson, Sons & Co.
,,	60 bgs.		L. & I. D. Jt. Co.
Holland,	6 cks.	4	Atkins & Nisbet
,,	30		Van Dam & Co.
,,	1		W. H. Muller
,,	10 bskts.		& Co.
U.S.A.,	12 pks.		G. W. Sheldon & Co.
Germany,	42	39	Argo S.S. Co.
,,	22 cks.		L. & I. D.
,,		31	Jt. Co.
France,	20 brls.		J. Watt & Son

Colours—

U.S.A.,	75 kgs.	Lunham & Moore
Sweden,	5 cks.	Trummer & Co. succrs.
Germany,	4	British Anti-Flg. C. & P. Co.
Holland,	1	8 W.Harrison
,,	1 crt.	& Co.
,,	1 ck.	Silicate Paint Co.
,,	19 pks.	T. H. Lee
,,	2 cks.	Williams & Giels
Germany,	9	Craven & Co.
Belgium,	4	T. H. Lee

Cottonseed Oil—

U.S.A.,	200 brls.	Prop. Hay's Wf.
Holland,	190	W. H. Muller & Co.

Cream of Tartar—

France,	33 cks.	B. & F. Wf.
,,	20 brls.	Co.
,,	60 pks.	W. C. Bacon & Co.
,,	1 ck.	T. M. Fairclough & Son
Belgium,	20 kgs.	B. & F. Wf. Co.

Dextrine—

Holland,	3 t. 10 c.	J. Barber & Co.
Germany,	2 10	W Grose & Co
,,	9	Bennett's H. Co.

Dyestuffs—

Annatto		
Germany,	1 cs.	L. & I. D. Jt. Co.
Denmark,	10 cks.	Burton, Baker & Co.
Cutch		
Straits,	150 cs.	Leach & Co.
,,	125	H. Grey, junr.
,,	300	Borneo Co., Ld.
Holland,	5,098 bgs.	Baxter, Hoare & Co.
Extract (*otherwise undescribed*)		
Belgium,	£34	P. Heydemann
Gambier		
France,	269 bls.	L. & I. D. Jt. Co.
Straits,	254	G. R. Haller
Myrabolans		
E. Indies,	414 bgs.	E. J Winser & Co.
Belgium,	29	G. T. Symons & Co.
E. Indies,	1,366	France, Fenwick & Co.
Quebracho Extract		
Arg. Rep.,	799 bgs.	J. Graves
Sumac		
Italy,	200 bgs.	L. & I. D. Jt. Co.
,,	500	Fisher, King & Co.
,,	50	Humphrey & Co.
Tanners' Bark		
Natal,	37 t.	J. Greaves
,,	258	R. T. Rennie, Son & Co.
Tanners' Extract		
Aust.-Hung.,	52 brls.	Boutcher, Mortimore & Co.
Tannin Extract		
France,	100 cks.	Humphreys, Percival & Co.
,,	65	F. Claydon & Co.
Austria,	52 brls.	Boutcher, Mortimore & Co.

Farina—

Holland,	10 t.	J. Barber & Co.
Aust.-Hung.,	22 8 c.	G. W. Sheldon & Co.
Germany,	6	Bennett's H. Co.
Holland,	3	Van Dam & Co.

Glue—

Norway,	£133	M. Dk. Co.
Holland,	20	W. H. Muller & Co.
Belgium,	282	T. M. Duche & Sons
France,	23	G. T. Symons
Germany,	250	J. Greig
,,	75	Prop. Hay's Wf.
France,	54	T. M. Duche & Sons
Belgium,	9	J. Harrison
Holland,	25	Van Dam & Co.
France,	15	O. Murray & Co.
Belgium,	88	,,
France,	70	L. & I. D. Jt. Co.
U.S.A.,	17	,,

Glue—

Belgium,	£92	Leach & Co.
,,	5	J. Cockerill Line
Holland,	58	Hernu, Peron & Co.
N. Russia,	250	J. Greig

Glue Stock—

N. Russia,	24 t.	Elkan & Co.
,,	1	7 c. Boutcher, Mortimore & Co.
Ceylon,	4	Flack, Chandler & Co.
Holland,	15	4 Boutcher, Mortimore & Co.

Glycerine—

Germany,	£57	Prop. Hay's Wf.
,,	5	F. Boehm
Belgium,	400	H. Hill & Sons

Guano—

Belgium,	7 t. 19 c.	D. de Pass & Co.

Kainit—

Germany,	100 t.	F. W. Berk & Co.

Lead Acetate—

Germany,	£175	M Dk. Co.

Linseed Oil—

U.S.A ,	5 brls.	Taylor Bros.
Holland,	1 ck.	Hernu, Peron & Co.

Lithopone—

Holland,	32 cks.	J. L. Lyon & Co.

Magnesite—

Holland,	£20	W. Dunz

Magnesium—

Germany,	£34	N. & R. Collyer
,,	27	Argo S.S. Co.

Manganesite—

Germany,	£62	Argo S.S. Co.

Methylic Alcohol—

Canada,	40 gals.	F. A. Tye

Mineral White—

France,	£30	Mercantile Ltge. Co.
,,	58	Blackwell, Sons & Co.

Olive Oil—

France,	126 gals.	Litchfield & Soundy
,,	72	B. & F. Wf. Co.
,,	2 t.	126 gals. L. & I. D. Jt. Co.
,,	3	F. Boehm
,,	28	H. Johnson, Sons & Co.
Italy,	2 70	L. & I. D. Jt. Co.

Paraffin Scale—

U.S.A.,	260 t. 10 c.	Anglo-American Oil Co.
Germany,	3 10	T. H. Lee
U.S.A.,	26	H. Hill & Sons

Paraffin Wax—

Holland,	31 t. 1 c.	Leach & Co.

Phosphate of Lime—

U.S.A.,	3,300 t.	Ward & Co.

Plumbago—

Aust.-Hung.,	19 cks.	Branwell & Co.
Ceylon,	12 brls.	,,
,,	40	R. G. Hall & Co.
Germany,	45 cks.	B. Gallaway
Ceylon,	1,111 brls.	Thredder, Son & Co.
,,	80	G. H. Green
,,	34	Doulton & Co.
U.S.A.,	13	Taylor Bros.

Potassium Carbonate—

Holland,	10 cks.	R. W. Greeff & Co.

Potassium Chlorate—

Sweden,	10 kgs.	G. Boor & Co.
Holland,	20 cks.	W. H. Muller & Co.

Potassium Cyanide—

Germany,	4 cs.	Argo S.S. Co.

Potassium Muriate—

Belgium,	500 bgs.	D. de Pass & Co.

Potassium Oxalate—

Holland,	20 kgs.	R. W. Greeff & Co.

Potassium Permanganate—

Germany,	£225	Craven & Co.
,,	140	H. Lorenz

Potassium Prussiate—

Belgium,	4 kgs.	Petri Bros.

Red Lead—

Holland,	3 cks.	W. H. Muller & Co.
,,	80	Burrell & Co.
France,	20 brls.	J. Watt & Son
Holland,	80 cks.	Felton & Crepin
,,	3	J. Spurling

Rosin—

U.S.A.,	150 brls.	L. A. Smith
Belgium,	34 cks.	J. Harrison
Holland,	79 pks.	Van Dam & Co.
France,	63 cks.	Rosin & Turp Import Co.
Spain,	250 brls.	Phillipps & Graves
Belgium,	50	Lucas & Spencer's Wf.

Saltpetre—

Germany,	101 t.	P. Hecker & Co.
,,	1	L. & I. D. Jt. Co.

Soap—

France,	£7	Potter & Clarke
Holland,	73	W. H. Muller & Co.
U.S.A.,	422	W. Davis
Italy,	41	Skilbeck Bros.
Germany,	87	L. & I. D. Jt Co.
France,	58	Mory & Co.
Italy,	21	Nicholson's Wvs.
U.S.A.,	250	Craven & Co.
Belgium,	50	B. & F. Wf. Co.
,,	24	D. C. Thomas & Son
U.S.A.,	87	Field & Co.
,,	7	J. M. Richard & Sons
France,	£140	Pronk, Davies & Co.
Germany,	250	M. Benscher
U.S.A.,	257	Lunham & Moore
,,	250	Butler & Crispe
Germany,	12	F. Boehm
France,	23	L. & I. D. Jt. Co.
,,	46	Beresford & Co.
,,	13	Litchfield & Soundy

Soap Powder—

Holland,	£25	W. H. Muller & Co.

Sodium Bicarbonate—

Germany,	30 t.	H. Finkler & Co.
,,	10 c.	A. & M. Zimmermann

Sodium Hyposulphite—

Germany,	6 t. 10 c.	J. M. Steel & Co.

Sodium Phosphate—

Germany,	2 t. 8 c.	Argo S.S. Co.

Sodium Sulphide—

Belgium,	£22	Beresford & Co.

Sodium Bichromate—

Holland,	10 t.	J. M. Steel & Co.

Starch—

France,	3 t.		C. E. Wood
,,	8	10 c.	A. C. Hitchcock
Holland,	3		Gordon, Watts & Co.
,,	11		W. H. Muller & Co.
,,	2	10	Burgoyne & Co.
Belgium,	12	4	J. Harrison
,,	5	5	E. & T. Pink
U.S.A.,	25		Bennett's H. Co.
Germany,		10	Prop. Hay's Wf.
Holland,	5		Van Dam & Co.
,,	2		J. Barber & Co.
Belgium,	6	10	Leach & Co.
France,	15		Little & Johnson

Stearine—

France,	13 bgs.	Mordaunt Bros.
Belgium,	126	Hill & Sons
,,	190	G. Jennings
U.S.A.,	185 pks.	Field & Co.
Belgium,	5 bgs.	Thompson, McKay & Co.
France,	100	R. Bell & Co.
,,	260	H. Hill & Sons
U.S.A.,	10 pks.	Lunham & Moore
Belgium,	13 bgs.	

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Sulphuric Acid—
Belgium, 200 t. Anglo-Cont. Guano Works

Talc—
Aust.-Hung., £68 Carbutt & Co.
France, 35 Claydon & Co.

Tallow—
N.S.W., 48 cks. Lucas & Spencer's Wf.
,, 67 Concordia Wf.
,, 70 Kumpf & Eckenstein
,, 20 G. H. Chippendale
,, 100 J. Grey
Victoria, 30 McDougall & Bonthron
Germany, 5 pks. J. Methuen, Son & Co.
Arg. Rep., 112 cks. J. Owen
N.S.W., 31 H. Kent
,, 104 Thornett & Fehr
France, 12 bgs. H. Hill & Sons
Arg. Rep., 134 cks. Vokins & Co.
Holland, 8 Hartman & Rahtjens
,, 2 J. Owen
N. Zealand, 68 ,,
,, 170 L. & I. D. Jt. Co.

Tannic Acid—
Holland, £30 5 cs. W. H. Muller & Co.

Tar—
N. Russia, 75 cks. Linck, Moeller & Co.
,, 50 Berman & Co.
,, 70 brls. ,,
Germany, 50 Linck, Moeller & Co.

Tartaric Acid—
France, 11 cks. B. & F. Wf. Co.
Holland, 10 ,,
,, 20 kgs. ,,
Italy, 12 cks. H. Finkler & Co.

Turpentine—
N. Russia, 104 brls London Oil Storage Co.
France, 150 J. Watt & Son

Ultramarine—
Holland, 5 cs. A. G. Soutter & Co.
,, 2 pks. W. H. Muller & Co.
Belgium, 5 cs. O. Lechla
Germany, 6 cks. Argo S.S. Co.
,, 5 cs. ,,

Wax—
E. Indies, 6 cs. Clarke & Smith
,, 15 L. & I. D. Jt. Co.
,, 4 bgs. Lewis & Peat
Germany, 100 Maritime Ltge. Co.
,, 56 pks. T. H. Lee
,, 15 bgs. ,,
E. Indies, 77 cs. G. & H. Green
Belgium, 10 D. C. Thomas & Sons
U.S.A., 31 bgs. T. L. Field & Co.
Germany, 10 cs. F. Boehm
,, 5 bgs. London & Rhine S. Office
,, 4 cs. L. & I. D. Jt. Co.
France, 50 pks. Figgis & Co.
Aden, 5 cs. L. & I. D. Jt. Co.

White Lead—
Holland, 46 cks. Perkins & Homer
Belgium, 27 J. L. Lyon & Co.
Germany, 5 Randall Bros.
,, 46 Spies, Bros. & Co.
Holland, 26 J. L. Lyon & Co.
U.S.A., 97 brls. Taylor Bros.
Germany, 5 cks. Argo S.S. Co.
,, 3 London & Rhine S. Office
Belgium, 102 G. Farmiloe & Sons

Zinc Oxide—
Holland, 50 cks. Burrell & Co.
,, 78 156 brls. M. Ashby, Ld.
,, 45 F. T. H. Nye
Germany, 125 Spies, Bros. & Co.
Holland, 20 W. H. Muller & Co.
Holland, 200 Litchfield & Soundy

Zinc Oxide—
U.S.A., 650 brls. M. Ashby, Ld.
Germany, 50 cks. ,,
,, 20 Weber, Smith & Hoare

Zinc White—
Holland, 5 cks. W. H. Muller & Co.

LIVERPOOL.

Week ending October 10.

Aluminium—
Havre, 17 bls.

Antimony Ore—
Antofagasto, 361 bgs.
Mollendo, 55 Hainsworth, Watson & Co.

Asbestos—
Rotterdam, 28 pks.

Barium Sulphate—
Antwerp, { 200 bgs. 90 cks.

Barytes—
Antwerp, 72 brls.

Beeswax—
Burutu, 2 cs. Niger Co., Ld.
Valparaiso, 31 sks. Severin Bros. & Co.

Borate of Lime—
A'fagasta, 740 bgs. Borax Con. & Co.
,, 1,000

Caoutchouc—
Havre, 9 cs. Cunard S.S. Co.

Castor Oil—
Leghorn, 20 cs.

Caustic Soda—
Antwerp, 10 dms.

Colours—
Hamburg, 28 pks.

Copper—
Havre, 12 pks.

Copper Ore—
W.C.S. America, 16 bgs.

Copper (Regulus)—
Hamburg, 340 bgs.
Valparaiso, 216 cs. A. Gibbs & Sons

Copper Sulphate—
Antwerp, 5 cks.

Cottonseed Oil—
New Orleans, 500 brls.

Cream of Tartar—
Tarragona, 10 brls.
Malaga, 3
Bordeaux, 58 cks.

Dextrine—
Hamburg, 5 cks.

Dyestuffs—
Bark Extract
Baltimore, 60 brls. McArthur & Co.
Oak Extract
Fiume, 800 brls.
Sumac
Barcelona, 200 bgs.
Palermo, 100 D. W. McCarthy & Co.
,, 1,540
,, 112 H. H. Markwall & Co.
Tannin Extract
Bordeaux, 224 cks.

Farina—
Fiume, 512 bgs.

Ferro Chrome—
Newport Mews, 33 brls.
Havre, 30 cs.

Ferro Silicon—
Gothenburg, 30 cks.

Glue—
Antwerp, 20 bls.

Glycerine—
Rio de Jan., 50 dms. Davidson, Unwin & Co.
Rotterdam, 38
Barcelona, 100 brls. J. Crosfield & Sons

Lithopone—
Rotterdam, 80 cks.

Magnesite—
Rotterdam, 240 bgs.

Manganese Ore—
Cartagena, 280 t.

Olive Oil—
Genoa, 25 cs.
Leghorn, 10 pks. W. Underwood & Co.
Bordeaux, 120 cs.
Barcelona, 3 Cuthbert, Bros. & Co.
,, 2 C. Melhado & Sons

Paraffin Scale—
Rangoon, 280 bgs.

Phosphates—
Tunis, 1,640 t.

Potash—
Portland, 5 cks.

Potash Salts—
Bremen, 1 ck.

Pyrites—
Huelva, 2,650 t.

Pyrites (Iron)—
Huelva, 64 t.

Red Lead—
Rotterdam, 73 cks.

Rosin—
Bayonne, 1,257 cks. R. J. Francis & Co.
Bordeaux, 784

Rubber—
W.C.S. America, 19 brls.
Iquitos, 234 cs.
C. Cocha, 198
Maranham, 12 pks.
Ceara, 526
Parnahyba, 829
Valparaiso, 7 bls. Hainsworth, Watson & Co.
,, 39 J. H. Schroder & Co.
Mollendo, 40 brls. A. Gibbs & Sons
Lagos, 2 pks. W. B. M'Iver & Co.
,, 16 Paterson, Zochonis & Co.
,, 1 Lagos Stores
,, 4 pks. H. B. W. Russell & Co.
C. Coast, 3 cks. J. P. Werner
,, 2 H. B. W. Russell
Sekondi, 8
,, 2 J. J. Fischer & Co.
,, 4 African Association
,, 6 F. & A. Swanzy
,, 15 Miller's Ld.
,, 3 J. P. Werner
,, 1 H. B. W. Russell
New York, 8 brls. Leech, Harrison & Co.
,, 491 pks. W. R. Grace & Co.
Benin, 35 cks. Miller, Bros. & Co.
,, 12 H. Bey & Co.
Saltpond, 2 H. B. W. Russell
Assini, 25 Cie Française, etc.
,, 5 Cie Franç. de K.
Lahou, 19 Cie Française, etc.
,, 32 R. & W. King
,, 7 Cie Franç. de K.
Conakry, 13 Cie Française, etc.
,, 7 Victoria & Lohmann
,, 2 Paterson, Zochonis & Co.
,, 1 Broadhurst, Sons & Co.
Hamburg, 58 pks.
New York, 37 cs. W. Symington & Co.
Grand Popo, 1 ck.
Winnebah, 1 Miller's Ld
,, 2 F. & A. Swanzy
Half Assini, 7 Miller's Ld.
,, 2
Gd. Bassam, 2 Olivier & Co.
Sassandra, 4 Rider, Sons & Andrew
,, 8 W. D. Woodin & Co.
,, 17 R. & W. King
,, 4
,, 10 Cie Française
Sherbro, 2
,, 2 Soc. Com. d'Ost. Af.
Batanga, 3

Salt (Waste)—
Hamburg, 100 t.

Saltpetre—
Hamburg, 65 pks.

Silver Ore—
A'fagasta, 74 sks. J. H. Schroder & Co.
,, 5
,, 31 A. Aramayo & Co.
,, 294 Widenmann, Broicher & Co.

Silver Sulphide—
Valparaiso, 29 bxs.

Soap—
Bari, 133 cs.
Bordeaux, 1
Catacola 2
Leghorn, 174
New Orleans, 1,358 brls.

Starch—
Antwerp, 435 cs.
Bremen, 40
Rotterdam, 80
Hamburg, 80
New York, 22 pks.
Antwerp, 89 J.T.Fletcher & Co.

Stearine—
Rouen, 100 bgs.
Halifax, 73 brls.
Antwerp, 6 cks. J. T. Fletcher
64 bgs. & Co.
,, 13

Tallow—
B. Ayres, 283 pps.

Tartaric Acid—
Bari, 22 brls.

Tin Ore—
A'fagasta, 4,140 bgs. Banco de Chile
,, 273 J. H. Schroder & Co.
,, 480 Deutsche Bank
,, 3,956 J. Titley & Co.
,, 2,655 A. Aramayo & Co.

Wax—
Valparaiso, 46 sks.
Baltimore, 375 brls.
Hamburg, 11 pks.
Conakry, 1 blk. Victor & Lohmann

White Lead—
Rotterdam, 90 cks.
New York, 36 brls.

Zinc Oxide—
Rotterdam, 4 cks.
New York, 500 brls.
Antwerp, 26

MANCHESTER.

Week ending October 12.

Acetic Acid—
Rotterdam, 11 cks.

Alcohol (Wood)—
Philadelphia, 5 brls.

Ammonia—
Philadelphia, 100 cylds.

Ammonia (Anhydrous)—
Rotterdam, 20 cs.

Barytes—
Rotterdam, 50 bgs.
Antwerp, 2

Calcium Carbide—
Christiania, 20 dms.

Carbonate of Lime—
Antwerp, 50 bgs.

Caustic Potash—
Treport, 17 cks.

Chalk—
Treport, 10 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 66 cks.
Rotterdam, 113 6 cs. 7 pks.

Citric Acid—
Bordeaux, 18 cks.

Coal Products—
Alizarine
Rotterdam, 15 cks.
Aniline Colour
Rotterdam, 29 cks.
Pitch
Hamburg, 26 brls.

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Cobalt—
Rouen, 2 cs.

Colours—
Antwerp, 19 cks.

Copper Oxide—
Rotterdam, 10 cks.

Dried Blood—
Rouen, 1 cs.

Dyestuffs—
Indigo Paste
Rotterdam, 46 cks.
Tannin
Antwerp, 5 dms.
Tannin Extract
Bordeaux, 300 cks.

Farina—
Rotterdam, 1,182 bgs
Hamburg 30

Ferro Silicon—
Fredriksttad, 63 cks.

Glue—
Hamburg, 10 bgs.
Treport, 33 pks.
Rotterdam, 80
Antwerp, 40 bls.

Lead Acetate—
Rotterdam, 6 cks.

Litharge—
Rouen, 10 cks.
Rotterdam, 6

Lithopone—
Rotterdam, 6 cks.

Magnesia—
Philadelphia, 40 cs.

Mineral White—
Hamburg, 5 bgs.

Ochre—
Treport, 253 cks.

Oxalic Acid—
Hamburg, 5 cks.

Paraffin Wax—
Philadelphia, 721 brls.

Potash Lye—
Hamburg, 12 dms.

Potassium Prussiate—
Rouen, 3 cks.
Hamburg, 12
Antwerp, 23

Red Lead—
Rotterdam, 6 cks.
Rouen, 10

Rosin—
Philadelphia, 250 brls.

Rubber—
Hamburg, 9 cs.

Salt—
Hamburg, 1 ck.

Saltpetre—
Hamburg, 1 ck.

Salt (Waste)—
Hamburg, 300 t.

Sodium Chlorate—
Treport, 60 cks.

Sodium Nitrate—
Rouen, 9 cks.

Sodium Nitrite—
Treport, 25 cks.

Sodium Phosphate—
Antwerp, 17 cks.

Starch—
Rotterdam, 60 cs.
Antwerp, 690
Hamburg, 168

Stearine—
Rotterdam, 26 bls.
Antwerp, 1 ck.96 bgs.

Tannic Acid—
Hamburg, 6 cks.

Turpentine—
Gefle, 10 cks.

Ultramarine—
Rotterdam, 4 cks.3 cs.

Wax—
Hamburg { 10 bgs. 6 kgs.

Zinc—
Rotterdam, 14 cks.

Zinc Bisulphate—
Rotterdam, 1 ck.

Zinc Oxide—
Rotterdam, 26 cks.

HULL.

Week ending October 12.

Alcohol—
Hamburg, 1 dm.

Antimony—
Rotterdam, 4 cks. Hull & N. S.S. Co.

Asbestos—
Reval, 4,489 bgs.
Antwerp, 19 crts. Wilsons & N.E. R. S. Co.

Barytes—
Rotterdam, 52 cks. Hull & N. S.S. Co.
Antwerp, 43 Wilsons & N.E. R. S. Co.
Amsterdam, 42 Hull & N. S.S. Co.
" 100 bgs. "
Rotterdam, 100 "

Calcium Carbide—
Christiania, 20 dms.

Chalk—
Rouen, 8 cks. Wilson, Sons & Co.

Chemicals (*otherwise undescribed*)
Dunkirk, 170 cks. Woodhouse & Co.
Rotterdam, 10 cs. Hull & N. S.S. Co.

Coal Products—
Alizarine
Rotterdam, 76 pks. Hull & N. S.S. Co.
" 37 cks. "
Aniline
Rotterdam, 22 cks. 886 pks.
Creosote Salt
Rotterdam, 10 bgs. Hull & N. S.S. Co.
Pitch
Antwerp, 11 cks. Hull & N. S.S. Co.

Colours—
Antwerp, 29 cks. Wilsons & N.E. R. S. Co.
Hamburg, 4 "
Antwerp, 27 pks. Hull & N. S.S. Co.

Dyestuffs—
Bark Extract
Antwerp, 50 cks.
Indigo
Rotterdam, 4 brls. Hull & N.
10 cks. S.S.Co.

Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.
Stettin, 125 Wilson, Sons & Co., Ld.

Ferro Silicon—
Antwerp, 3 cks. Wilsons & N.E.R .S. Co.

Lactic Acid—
Rotterdam, 7 cks. Hull & N. S.S. Co.

Linseed Oil—
Rotterdam, 54 dms. Hull & N.
" 282 brls. S.S. Co.

Manganese Ore—
Bombay, 1,500 t.

Potash—
Bremen, 50 dms. Wilsons Sons & Co.

Potassium Sulphide—
Hamburg, 20 cks. Wilsons & N.E.R. S. Co.

Red Lead—
Rotterdam, 8 cks. Hull & N. S.S. Co.

Rosin—
Bordeaux, 20 cks. Helmsing & Son

Rubber—
Riga, 135 pks. Wilsons Sons & Co.

Salt—
Hamburg, 500 bgs.

Saltpetre—
Hamburg, 10 bgs.

Soap—
Rotterdam, 5 brls. Hull & N.
25 pks. S.S. Co.

Soda—
Rotterdam, 300 bgs. Hull & N. S.S. Co.
Hamburg, 100 cks. Wilsons & N.E. R. S. Co.

Soda Crystals—
Antwerp, 48 bgs. Wilsons & N.E. R. S. Co.
Ghent, 50 "

Starch—
Rotterdam, 160 cs. Hull & N. S.S. Co.
Dunkirk, 110
Bremen, 2,707 Veltmann & Co.
Ghent, 130 cs. Wilsons & N.E. R. S. Co.
Antwerp, 20

Tartaric Acid—
Rotterdam, 6 cks. Hull & N. S.S. Co.

Tin Oxide—
Rotterdam, 8 cks. Hull & N. S.S. Co.

Turpentine—
Riga, 53 brls.

White Lead—
Rotterdam, 20 cks. Hull & N. S.S. Co.

Zinc Oxide—
Hamburg, 155 bgs. Wilsons & N.E. R. S. Co.

GLASGOW.

Week ending October 17.

Castor Oil—
Marseilles, { 10 cs. 50 cks.

Chalk—
London, 100 t.

Cream of Tartar—
Marseilles, 3 cks.

Iron Ore—
Bilbao, 2,250 t. J. Jenkins & Sons
" 2,600 Macleod & Co.
" 1,782 14 c. J Wild & Co., Ld.
Castro, 1,900 J. P. Kinghorn & Co.

Olive Oil—
Smyrna, 140 brls.
Marseilles, 1 ck.

Soap—
Montreal, 476 bxs.
New York, 7 1 cs.
Newport Mews, 275 brls.

Soap Powder—
New York, 1,000 bxs.

Wax—
Hamburg, 160 bxs.

White Lead—
New York, 56 brls.

TYNE.

Week ending October 12.

Acetic Acid—
Rotterdam, 17 cks. Tyne S.S. Co.
Antwerp, 25 "

Antimony—
Hamburg, 4,687 bars Tyne S.S. Co.

Antimony Ore—
Hamburg, 643 bgs. Tyne S.S. Co.
Antwerp, 30 "

Barytes—
Antwerp, 200 bgs.

Colours—
Hamburg, 1 brl. Tyne S.S. Co.
Rotterdam, 1 cs. "
Hamburg, 13 "

Copper Oxide—
Hamburg, 34 dms. Tyne S.S. Co.

Glue—
Rotterdam, 1 ck. Tyne S.S. Co.
Hamburg, 1 "

Kainit—
Hamburg, 299 c. 3 q. Cameron, Swan & Co.

Phosphate—
Dunkirk, 165 t. Blaydon M. & A. Co.

Saltpetre—
Hamburg, 20 bgs. Tyne S.S. Co.

Soap—
Hamburg, 8 cs. Tyne S.S. Co.

Starch—
Antwerp, 270 cs. Tyne S.S. Co.
" 5 bgs. "

Stearine—
Antwerp, 68 bgs. Tyne S.S. Co.

Ultramarine—
Rotterdam, 2 cks.

GOOLE.

Week ending October 12.

Alumina—
Ghent, 2 dms.

Barytes—
Antwerp, 60 bgs.

Bog Ore—
Amsterdam, 60 t.

Caoutchouc—
Boulogne, 7 cks.

Chalk—
Rotterdam, 10 bgs.

Chemicals (*otherwise undescribed*)
Boulogne { 10 cks. 39 dms. 6 cs.
Dunkirk, 5
Hamburg, 43 4 124
Rotterdam, 27 5

Copper (Pyrites)—
Seville, 1,410 t.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 14 cks.
Boulogne, 204 1 cs.
Rotterdam, 589 71
Hamburg, 73 6

Farina—
Hamburg, 100 bgs.
Delfzyl, 2,003
Rotterdam, 25

Glue—
Antwerp, 40 bgs.

Oleine—
Antwerp, 3 cks.

Phosphate—
Boulogne, 915 bgs.

Plumbago—
Boulogne, 3 cs.

Saltpetre—
Antwerp, 135 bgs.

Salt (Waste)—
Hamburg, 120 t.

Starch—
Hamburg, 16 cks.
Antwerp, 160 cs.
Ghent, 14

Stearine—
Hamburg, 50 cks.
Antwerp, 1 brl.

GRIMSBY.

Week ending October 12.

Barytes—
Antwerp, 1 ck.

Caoutchouc—
Hamburg, 41 cs.
Rotterdam, 1
Antwerp, 8

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.1 ctc. 8 pks.
Rotterdam, 16
Antwerp, 6

Coal Products—
Creosote
Antwerp, 1 dm.

Colours—
Antwerp, 1 ck. 146 pks.
Hamburg, 18
Rotterdam, 59 bgs. 15

Ferro Chrome—
Dieppe, 131 cks.

Ferro Silicon—
Antwerp, 32 cks.

Formaldehyde—
Landscrona, 45 pks.

Glue—
Antwerp, 10 bgs.

Salt—
Hamburg, 2 cs.

Starch—
Rotterdam, 10 cs.
Antwerp, 140

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EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 16.

Acetic Acid—
Wanganui, 1 c. £32

Ammonia—
Calcutta, 15 t. £30
Colombo, 1 6
Perth, 2 c. 9
Delagoa Bay, 2 7
Sydney, 15 53
Durban, 1 6
B. Ayres, 11 18
Paris, 1 10
Auckland, 2 8
Lisbon, 11 18
Shanghai, 6 15

Ammonium Carbonate—
Calcutta, 7 c. £21
Cologne, 2 t. 3 72
Demerara, 4 9
Bombay, 11 20
Dunedin, 3 5
Hamburg, 4 4 6
Rangoon, 10 21

Ammonium Muriate—
East London, 2 c. £6

Ammonium Sulphate—
Kobe, 511 t. 1 c. £6,229
Yokohama, 500 14 6,024

Antimony—
Lisbon, 1 t. 10 c.
B. Ayres, 2 5

Antimony (Regulus)—
Genoa, 10 t.

Borax—
Delagoa Bay, 3 t. £114
Sydney, 210 100

Barium Binoxide—
N. Orleans, 4 t. 6 c. £140
Paris, 34 17 1,190

Basic Slag—
Conconeau, 100 t. £310

Bisulphite of Lime—
Pernambuco, 10 t. 17 c. £48

Bleaching Powder—
Auckland, 10 c. £10
Pt. Chalmers, 15 14

Calcium Carbide—
Calais, 1 cs. £2

Calcium Chloride—
Nagasaki, 1 t. £5

Carbon Bisulphide—
Trinidad, 10 c. £16

Caustic Soda—
Teneriffe, 3 c. £5
Auckland, 6 5
Hong Kong, 1 t. 17

Chemicals (*otherwise undescribed*)
Beira, 10 c. £11
Timaru, 11 9
Sydney, 10 20
Hamburg, 3 31
M. Video, 2 25
Bremen, 6 cks. 15
Paris, 8 cs. 179
New York, 4 36
Alexandria, 9 c. 55
Gothenburg, 1 cs. 9
Cape Town, 2 14
East London, 3 20
Odense, 1 60
Lisbon, 4 80
St. Petersburg, 2 28
Bremen, 13 180
Sydney, 6 22
Ostend, 1 8
Cape Town, 100 pks. 25
,, 1 ck. 3 11
Hamburg, 7 c. 116
Jamaica, 1 1 cs. 28

Citric Acid—
Algoa Bay, 2 c. £15
Brisbane, 19 19
Durban, 2 21
Amsterdam, 11 78
Calcutta, 2 20
Bombay, 8 36
Wellington, 1 7
Bombay, 1 6
Santos, 16 59
Genoa, 11 96
Kobe, 10 138
Demerara, 1 15
Timaru, 1 cs. 1
Napier, 1 6

Citric Acid (Crystals)—
Jamaica, 1 kg. 2 cs. £22
Hong Kong, 2 c. 21

Coal Products—
Aniline Dye
Melbourne, 1 cs. £39
Boulogne, 3 pks. 26
Benzol
Treport, 98 cks. £143
Brussels, 100 155
Bitumen
Hamburg, 45 cks. £110
Carbolic Acid
Rio de Jan., 20 dms. £10
Barbadoes, 3 1 cs. 5
Amsterdam, 25 cks. 88
Napier, 20 15
Singapore, 50 63
Algoa Bay, 2 8
Creosote
N. Orleans, 587,967 gals. £11,790
Hydrocarbon
Brussels, 18 dms. £180
Naphthaline
Marseilles, 2 cks. £11
Sydney, 20 cs. 9
Port Sudan, 8 8
Pitch
Rouen, 115 brls. £276
Rangoon, 100 dms. 34
Boulogne, 4 cks. 14
Antwerp, 180 t. 252
,, 50 pks. 13
Hamburg, 100 25
Alexandria, 200 brls. 55
Philadelphia, 250 630
New York, 109 cks. 250
Dunkirk, 915 t. 1,286
Pyridine
Hamburg, 3 dms. £37
Tar
Rangoon, 50 dms. £20
Brisbane, 10 2 cs. 6
Hamburg, 100 brls. 53
Dunedin, 25 12 17
Algoa Bay, 500 15
Toluol
Treport, 50 cks. £90

Copper Sulphate—
Bordeaux, 15 t. £360
Paris, 25 600
Antwerp, 15 360
Odense, 10 246
Cape Town, 12 c. 29
Sourabaya, 15 20

Cottonseed Oil—
Gibraltar, 7 t. 10 c.
Hamburg, 16 17
Marseilles, 120 13
Melbourne, 10 3
Paris, 8 6
Pt. Vendres, 1 13
Rotterdam, 12 8
Salonica, 5 2
Bordeaux, 8 7

Cyanide (*otherwise undescribed*)—
Auckland, 6 t. £506
Beira, 5 12 c. 448
Delagoa Bay, 25 —

Disinfectants—
Brisbane, 160 dms. 10 cs. £81
Madras, 1 c. 26
Durban, 1 t. 9 36
Invercargill, 1 tnk. 51
Penang, 5 cks. 14
Bilbao, 4 28
Bombay, 7 6
Karachi, 100 dms. 6
Beira, 7 7
St. Petersburg, 1 15
Lyttelton, 9 67
Wellington, 1 3 96
Antwerp, 5 12 67
Alexandria, 1 19 16
Santos, 10 19
Hamburg, 1 15
Singapore, 18 69
Gibraltar, 3 dms. 7
Auckland, 1 5
Montreal, 3 5
San Jose, 13 8
Calcutta 1 t. 11 12
Auckland, 4 17
Canterbury, 3 8
Melbourne, 14 30
Dunedin, 18 196
Auckland, 15 30
Penang, 24 dms. 7
Dunedin, 3 9
Invercargill, 4 15

Disinfectants—
Sydney, 10 dms. 119 cs. / 5 t. 9 c. 470 / 2 pks.

Dyestuffs (*otherwise undescribed*)—
Rio de Jan., £28

Fertiliser—
Bordeaux, 1 t. 6 c. £10
Rouen, 50 128

Glue—
Ghent, 1 c.

Gold Chloride—
Sydney, £11

Glycerine—
Montreal, 6 t. 4 c. £263
Brisbane, 19 64
Yokohama, 5 15

Lead Acetate—
Sydney, 3 c. £6

Linseed Oil—
Alexandria, 5 t. 2 c.
Auckland, 15 12
Bangkok, 2 1
B. Ayres, 3 1
Canaries, 2 17
Cape Town, 1 7
Christchurch, 1 12
Hobart, 2 19
Jaffa, 1 15
Melbourne, 1 2
M. Video, 2 8
Napier, 5 14
Otago, 9 3
Paranagua, 1 15
Paris, 6 16
Penang, 2 1
Pt. Elizabeth, 2 3
Porto Alegre, 17
Rockhampton, 16
Singapore, 5 9
Smyrna, 1 14
Syra, 3 10
Tampico, 23 3
Timaru, 5 16
Trinidad, 2 13
Townsville, 1 4
Vera Cruz, 17 7
Wanganui, 2
Wellington, 5
Adelaide, 4 2
Barbadoes, 1 10
Bombay, 15
Brisbane, 5 10
Halifax, 10 10
Hong Kong, 1 4
Jamaica, 1 8
Kobe, 11 10
Limon, 12
Lisbon, 1 4
Lyttelton, 5
Madeira, 5
Malta, 13
Nelson, 10
Oporto, 2 16
Rangoon, 3 15
Rio de Jan., 1 8
Rotterdam, 5
St. Kitts, 4
Santos, 37 11
Townsville, 3 15

Manure—
Jamaica, 10 t. £95
Lisbon, 61 126
Auckland, 25 7 c. 80
Marseilles, 10 60
Bordeaux, 5 20
Stettin, 160 26
Guernsey, 11 50
S. Michael's, 24 6 90
E. London, 2 14 9

Nitric Acid—
Cape Town, 3 c. £7

Phosphates—
E. London, 8 c. £15

Phosphorus—
Melbourne, 8 c. £34
Sydney, 18 80
Canterbury, 5 cks. 33

Potassium Bisulphate—
Philadelphia, 14 c. £58
Napier, 8 12

Potassium Chlorate—
St. Petersburg, 2 c. £19
Wellington, 6 10
Auckland, 4 8
Sydney, 2 6

Potassium Cyanide—
Melbourne, 1 t. 2 c. £16

Salammoniac—
Dardanelles, 10 c. £19
Shanghai, 10 t. 24

Salt—
Sydney, 3 t.
Wellington, 82
Saigon, 2

Saltcake—
Norrkoping, 13 t. £20

Saltpetre—
Dunedin, 17 c. £23
Santos, 10 22
Gibraltar, 5 t. 119
Melbourne, 10 13
Rio de Jan., 2 5 59

Sheep Dip—
Invercargill, 400 cks. £700
Sydney, 5 t. 118
B. Ayres, 125 brls. 206
Durban, 1 13 c. 26
B. Ayres, 18 500
Sydney, 19 10 388
Timaru, 230 dms. 107

Silver Nitrate—
Wellington, 1 cs. £17
Adelaide, 1 18

Soap—
Aden, 15 c.
Alexandria, 2
Antigua, 1
Antwerp, 1 t. 5
Auckland, 5
Beira, 8
Bombay, 3 12
Boston, 11 10
B. Ayres, 3
Calcutta, 3 3
Colombo, 2 10
Hamburg, 1 9
Jamaica, 1 1
Malta, 12
Manila, 14
Melbourne, 13 4
Mombassa, 4 6
Osaka, 2
Ostend, 4
Otago, 1 12
Paris, 1 8
Penang, 5
Piræus, 2
P. Elizabeth, 3 4
Rotterdam, 2
Salonica, 1
Seychelles, 4
Shanghai, 6
Tokio, 1
Toronto, 3
Vera Cruz, 4
Boulogne, 1 3
Brussels, 1
Calicut, 1
Canaries, 1
Launceston, 1
Lisbon, 1 12
Lyttelton, 1 3
Madras, 4
Montreal, 3
Napier, 1
Pt. Sudan, 2
Rangoon, 18
St. Kitts, 10
Singapore, 1 8
Tobago, 1 6
Trinidad, 8
Wellington, 8
Yokohama, 1

Soda Crystals—
Calcutta, 12 c. £6

Sodium Arseniate—
Sydney, 11 c. £28

Sodium Bicarbonate—
H. Kong, 2 t. £15
Mossel Bay, 10 c. 7

Sodium Carbonate—
Constantinople, 11 c. £6

Sodium Silicate—
Durban, 7 c. £6
Algoa Bay, 4 5

Sodium Sulphide—
Gisborne, 5 t. £36
Napier, 15 1 c. 109
Lyttelton, 10 6 18
Wellington, 10 9 73

Sodium Tartrate—
Montreal, 1 t. 2 c. £59

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Starch—
Alexandria, 6 t.
Calcutta, 16 c.
Christchurch, 1
Invercargill, 1
Lyttelton, 2 13
Marseilles, 10
E. London, 9 7
Otago, 1 9
Piræus, 1
Sydney, 11 5
Timaru, 1 10
Wellington, 9 2
Channel Is., 1 1
Durban, 1
Jamaica, 6
Mossel Bay, 1

Sulphur—
Calcutta, 2 t. 3 c. £20
Ostend, 3 5 348
Melbourne, 1 2 33

Sulphuric Acid—
Hamburg, 1 t. 7 c. £7
Oporto, 5 7
Cape Town, 15 10
Mozambique, 1 2 6
Demerara, 11 5 7
Wellington, 4 5
Penang, 4 13 35
Colombo, 3 3

Superphosphate—
Demerara, 25 t. £92
Adelaide, 2,480 6,820

Tallow—
Antwerp, 10 t.
Galatz, 65 2 c.
Hamburg, 41
Copenhagen, 18
Riga, 10 1

Tartaric Acid—
Algoa Bay, 1 c. £6
Brisbane, 1 6
S. Petersburg, 1 7
Calcutta, 3 18
Antwerp, 2 10
M. Video, 2 10
Montreal, 3 7
Bombay, 12 cs. 70

White Lead—
Auckland, £1,125
Bombay, 487
Cape Town, 252
Melbourne, 616
Otago, 150
P. Elizabeth, 118
Wellington, 81
Sydney, 277

Zinc Chloride—
B. Ayres, 14 c. £20

LIVERPOOL

Week ending October 16.

Acetic Acid—
Rio de Jan., 2 t. 12 c. £48
Talcahuano, 3 4

Alum—
Vancouver, 4 t. 2 c. £24
Bourgas, 2 13 14
Varna, 18 13 19
Galatz, 6 1 32
Melbourne, 1 6
Maranham, 2 1
Syra, 2 17 15
Singapore, 10 1 57
Sydney, 5 3 27
Rio de Jan., 5 17 33
Corral, 1 6 7
Aviles, 1 1 6

Alum Waste—
Calcutta, 10 t. £29

Alumina Sulphate—
Vancouver, 2 t. £9
Calcutta, 25 71
Montreal, 1 19 c. 9
Madras, 5 2 30
Havana, 10 4 34

Ammonia—
Rio de Jan., 4 c. £6
Calabar, 6 cs. 8
Cadiz, 2 18

Ammonium Carbonate—
Malta, 19 c. £33
Rangoon, 6 10
Bombay, 10 17
Stockholm, 1 t. 14 34
New York, 6 10 228
Yokohama, 3 10 115
Genoa, 17 30
Montreal, 11 385
Cindad Bolivar, 1 2
Melbourne, 1 10 48
Barcelona, 10 16
Santos, 8 20
Aviles, 10 15

Ammonium Muriate—
Marseilles, 12 c. £14
Yokohama, 4 t. 1 97
Hiogo, 3 1 73
Gofle, 6 17
Stockholm, 6 8 141
N. Orleans, 15 15 386
Alexandria, 2 48
Toronto, 1 3 28
Piræus, 4 5
Salonica, 16 12
Trebizonde, 9 11
Baltimore, 31 15 756
Melbourne, 3 2 74
M. Video, 2 2
Genoa, 5 19 128

Ammonium Sulphate—
New York, 56 t. 3 c. £679
Valencia, 250 2,701
Baltimore, 89 12 1,114
M. Video, 1 12 8
Durban, 8 96
Montreal, 4 48
S. Cruz de T., 10 120
Las Palmas, 37 2 447
Yokohama, 124 17 1,486
Teneriffe, 5 60
Alicante, 80 2 942
Barcelona, 30 360
Colombo, 56 15 692

Antimony—
Puerto Colombia, 5 cs.

Antimony Sulphide—
New York, 10 brls. £50

Arsenic—
Tampico, 4 c. £6

Basic Slag—
Corunna, 120 t. £180
Gijon, 15 23
Genoa, 150 300

Bisulphide of Lime—
Montreal, 2 t. 14 c. £17

Bleaching Powder—
Bombay, 9 dms.
Boston, 120 cks.
Calcutta, 739
N. Orleans, 16 160 brls.
Boston, 42
Chile, 85
Cuba, 95
Freemantle, 20 cs.
Montreal, 75
New York, 81 15 brls.
P'delphia, 103
Portland, 82
Vera Cruz, 30

Boracic Acid—
Yokohama, 1 t. 10 c. £36
V. Cruz, 4 4

Borax—
Alexandria, 1 t. £15
V. Cruz, 15 c. 3brls. 20
Calcutta, 2 10 39
Adelaide, 1 8 24
Yokohama, 2 19 45
Bombay, 5 10 87
Calcutta, 2 10 40

Calcium Acetate—
Calcutta, 1dm. £8

Calcium Chloride—
Ceara, 1 t. 13 c. £4
Valparaiso, 2 16 6
Trinidad, 9 14 21
Genoa, 9 19 21
Hamburg, 1 6 4
Warri, 10 2
Montreal, 20 2 37
Barletta, 100 5 278
C. Town, 6 2 14

Carbonate of Lime—
New York, 2 t. 9 c. £176

Castor Oil—
Grand Bassam, 5 cs.

Caustic Potash—
Antwerp, 2 t. 18 c. £87
Montreal, 5 7
N. Orleans, 1 6 36
Las Palmas, 2 3
M. Video, 3 1 95

Caustic Soda—
Alexandria, 284 dms.
Cape Town, 35 cs. 9
Copenhagen, 44 cks. 10
Havana, 100
Lisbon, 331
Padano, 200
Quebec, 50
Rio de Jan., 14
Samarano, 222
Shanghai, 68
Valparaiso, 24 tins. 100

Caustic Soda—
Alicante, 20 dms.
Amsterdam, 80
Barcelona, 106 cks. 120
Boston, 150
Cartagena, 35 30
Eten, 12
Hiogo, 157
Hong Kong, 80
Karachi, 30
Launceston, 3
Moji, 50
Montreal, 52 brls. 275
Naples, 60
New York, 25
Oporto, 30
Perth, 12 bxs. 2 pks.
,, 120 dms.
Puerto Colombia, 30
Rockhampton, 15
Rouen, 65
Salonica, 18
Samarang, 148
Shanghai, 17
Soerabaya, 40
Sydney, 101 41
Vera Cruz, 346
Wellington, 25
Yokohama, 100

Chemicals (*otherwise undescribed*)
New York, 10 dms. £27
Barcelona, 5 cks. 64
Odessa, 25 125 kgs. 245
Para, 15 dms. 47
Genoa, 10 cs. 15
Cameroons, 75 105
Venice, 12 cks. 66
Santander, 12 24
Montreal, 22 98
Melbourne, 55 pks. 58
Hamburg, 3 30
Rotterdam, 16 166
New York, 6 128
Adelaide, 20 cs. 160
Genoa, 5 10 brls. 56
Rotterdam, 5 8
Karachi, 15 82

China Clay—
Baltimore, 1,205 cks.
,, 196 t. 4 c.
B. Ayres, 60 bgs.
Montreal, 900 cks.
,, 332 t 2 c.
Ph'delphia, 243

Citric Acid—
S.John's, N.F., a qnty.
Valparaiso, 2 c. £20
C. Coast, 1 cs. 2
New York, 1 t. 182

Coal Products—
Aniline Colours
Boston, 13 cks. 5 kgs.
Barcelona, 4
Carbolic Acid
V. Cruz, 1 c. £8
Sydney, 7 t. 2 92
Carbolic Acid (Fluid)
New York, 4 t. £240
Baltimore, 4 cs. 16
Carbolic Acid (Solid)
N. Orleans, 16 t. £214
Calcutta, 4 c. 20
Yokohama, 10 524
Genoa, 10 30
Boston, 1 5 33
Baltimore, 3 cs. 43
Creosote Salts
Montreal, 1 t. 1 c. £48
Tar
Accra, 10 brls.
Galatz, 200
Toluol
Havre, 8 t. 5 c. 18 dms. £190

Colours—
Calcutta, 12 kgs.
Manilla, 5 pks.
Constanti'ple, 10
Hamburg, 62 cks.
Havana, 15
Hsin Ho Wf., 40

Copperas—
Havana, 6 c. £1

Copper Sulphate—
Antwerp, 32 t. 2 c. £806
Sydney, 5 123
Galveston, 1 10 39
Palermo, 2 6 53
Bombay, 2 10 71
Bordeaux, 13 3 305
Victoria, 5 139
S. Cruz, 5 7
Varparaiso, 5 6

Copper Sulphate—
Barcelona, 12 t. 13 c. £297
Maranham, 2 3
Marseilles, 4 19 107
Rio de Jan., 1 18 1 kg. 44
Hamburg, 1 1 25
Montreal, 30 2 838
Santos, 19 23
Bourgas, 1 23
Varna, 1 23
Calcutta, 5 116
Vera Cruz, 45 4 1,071
Tampico, 75 6 1,987
Pasages, 4 18 117

Cottonseed Oil—
Bassam, 4 brls.
Bordeaux, 15

Cream of Tartar—
St. Johns, N'fld., 2 c. £8

Cyanide (*otherwise undescribed*)—
Sekondi, 3 t. 12 c. £280

Disinfectants—
Trinidad, 1 brl. £2
Lisbon, 10 dms. 6
Durban, 76 17
Bombay, 120 57
Bonny, 24 1 cs. 40
Calcutta, 500 75
Colombo, 4 5
Genoa, 25 cks. 72
Belize, 10 13
Rangoon, 95 24
E. London, 2 t. 10 c. 49
Perth, 42 kgs. 10
Duala, 1 4
Madras, 30 cks. 210
Delagoa Bay, 250 dms. 177
Sekondi, 3 4

Dextrine—
Pasages, 10 bgs.

Dyestuffs (*otherwise undescribed*)—
Genoa, 2 cks.

Dyestuffs—
Cutch
Barcelona, 20 cs.
Tannin Extract
Boston, 150 brls.
Constanti'ple, 10 cks.
Copenhagen, 43
New York, 2
Varna, 50

Glycerine
Delagoa B., 155 t. £5,900
Vera Cruz, 1 c. 5
Boston, 11 31
New York, 3 2 90
C. Town, 71 19 3,117
Rangoon, 6 18
Miogo, 4 15 203
Montreal, 18 11 839
Boston, 5 14
Cabadello, 1 57
Natal, 4 11
Perth, 2 5
Johannesburg, 1 58
Kobe, 4 15 201
Bombay, 10 29
Osaka, 4 15 214
Montreal, 15 2 611
Quebec, 48 17 2,199
Havana, 2 10 130

Hypophosphate of Lime—
Barcelona, 4 c. £39

Lactic Acid—
Melbourne, 13 c. £14

Lead Acetate—
Havana, 1 t. 8 c. £48

Linseed Oil—
Alexandria, 166 brls.
Antofagasta, 40 dms.
Fiume, 8
Havre, 50
Jamaica, 15 50
Manaos, 2 50
Manilla, 475
Para, 18 25
Port Said, 3
Rio G. Sul, 12 cks.
Varna, 12
Bahia, 10
Beyrout, 12
Constantinople, 16
Gibraltar, 2
Havana, 3 17 25
Iquique, 50
Maceio, 10
Mollendo, 110
New York, 55
Port Elizabeth, 3 24
Singapore, 100
Smyrna, 11
Sulina, 11
Yloilo, 125

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Magnesia—
Sydney, 1 t. 7 c. £49

Magnesium Calcine—
Progresso, 1 cs. £15
Adelaide, 2 t. 5 c. 37

Magnesium Carbonate—
Bordeaux, 2 t. 7 c. £38
Corunna, 1 2
Vera Cruz, 7 7
Tampico, 2 5 40

Magnesium Chlorate—
Saigon, 2 t. 7 c. £11

Magnesium Chloride—
N. Orleans, 1 t. 4 c. £6
New York, 20 2 54

Manure—
Baltimore, 51 t. 6 c. £82

Muriatic Acid—
Hamburg, 1 cs. £1

Oxalic Acid—
Boston, 6 c. £18
Montreal, 1 t. 11 59
Stockholm, 1 7 42

Phosphate of Lime—
Melbourne, 49 t. 18 c. £89

Phosphorus—
Kobe, 2 t. 4 c. £320

Phosphorus (Amorphous)—
Kobe, 2 t. 4 c. £440

Potash—
Para, 12 c. £6

Potassium Bicarbonate—
N. York, 1 t. 18 c. £40

Potassium Bichromate—
Montreal, 8 t. 12 c. £254
Bordeaux, 1 1 34
Bombay, 1 10 47
Havana, 1 10 46
V. Cruz, 14 19 432

Potassium Carbonate—
Havre, 1 t. £27
Rio de Jan., 1 1 c. 23

Potassium Chlorate—
Gutujewsky, 20 t £600
Venice, 19 c. 30
Naples, 2 10 75
V. Cruz, 1 2
Amsterdam, 11 17
Hamburg, 2 60
Riga, 5 150
Tampico, 12 18
V. Cruz., 5 150
Tampico, 2 10 75
Odessa, 2 10 75
Bari, 2 9 74

Red Lead—
Para, 30 kgs.
Iquitos, 20 5 cks.

Salammoniac—
Venice, 1 t. £38
Bombay, 4 13 c. 182
Karachi, 2 5 82
Trieste, 1 40
Ancona, 10 20
Galatz, 3 4 131
Varna, 10 19
Gijon, 6 11
Barcelona, 2 4

Salt—
Antwerp, 60 t.
Baltimore, 410
Bassam, 17 17 c.
Burutu, 470
Calcutta, 2,878
Cape Coast, 12 10
Cape Town, 100 cs.
Conakry, 216 13
Copenhagen, 25 1
Dunbreka, 600
Ghent, 249
Iquitos, 85
Lagos, 115
Manila, 200
Montreal, 730
Newcastle, 65
New York, 150
P'delphia, 125
Portland, 100
Rio Nunez, 400
S. Leone, 142 8
Valparaiso, 50
Yokohama, 150
Boston, 100
Gibraltar, 1 12
Kalmar, 100 bgs.
Karlskrona, 10
N. Orleans, 575 sks. 1,550

Saltcake—
Perth, 5 t. 2 c. £5
Leghorn, 197 12 664

Saltpetre—
Parnahyba, 3 t. 11 c. £93
Maranham, 1 5 30
Para, 5 7
Sekondi, 4 4
Dixcove, 1 1
Havana, 1 5 31
Chubut, 2 3

Sheep Dip—
Bahia Blanca, (800 dms. 10 t. c. £544
Barranquilla, 2 cs. 4
Wellington, 6 11 65 132
S. Cruz, 50 dms. 10 140
Wellington, 250 65
Napier, 130 53
Nelson, N.Z., 110 13
Montreal, 2 t. 6 40
B. Ayres, (20 16 100 / 1,000 dms. 1,016

Soap—
Alexandria, 96 bxs. 40 dms.
A'vorante, 40
Batavia, 2,000 30 cs.
Bombay, 1,032 1,121
Burutu, 430
Calcutta, 9 (12 pks. 5 bls. 500 bdls.)
Chama, 100
Cape Town, 450 8
Delagoa B., 50
Duala, 100
Durban, 506 2
Gibraltar, 300 51
Guadaloupe, 368
Half Jack, 50
Iquitos, 98
Kingston, 3,492
Lagos, 3,205
Larnaca, 18
Las Palmas, 40 dms.
Melbourne, 2
Palembang, 1225
Penang, 250 150
P. Elizabeth, 550 78
P. Louis, 2,500
Rangoon, 1,070 50
Reunion, 500
Singapore, 2,005
Sofia, 104
Tangiers, 170
Teneriffe, 250 3 cks.
Volo, 10
Amboina, 150
A'fagasta, 362
Antwerp, 53
Appam, 35
Bangkok, 50
Bassam, 30
Belize, 1,390 5
Bolivia, 70
Boston, 40 brls.
B. Ayres, 225
Cameroons, 75
Ceuta, 500
Cochin, 25
Conakry, 50
Constantinople, 35
Duela, 10
Elmina, 100
Fiume, 120
French West Africa, 50
Genoa, 10 26 pks.
G. Bassam, 180
Half Jack, 51
Hsin Ho Wharf, 160 kgs.
Iquique, 30 10 pks.
Iquitos, 30 dms.
Karachi, 28
Lisbon, 30
Loango, 8 3
Lome, 3
Malta, 5 22
Mangalore, 24
Manila, 12
Matadi, 73
Montreal, 7
Nassau, 7
New York, 33
Palma, 200
Piræus, 86
Pisagua, 10 pks.
Pontianack, 30
Rotterdam, 1,525
Samarang, 50
Sekondi, 50
Smyrna 27
Scurabaya, 60
Taltal, 12
Tetuan, 220
Wellington, 2
Winnebah, 35

Soap Extract—
Sydney, 70 cs.

Soap Powder—
Valparaiso, 12 cks.
Durban, 30 cs.

Soda—
Boston, 35 cks.
Kobe, 173 dms.

Soda Ash—
Bombay, 6 cks.
B. Ayres, 193 361 kgs.
Calcutta, 20 3,000 bgs.
Eten, 12 brls.
Rotterdam, 676
Copenhagen, 950
Shanghai, 1,099 1,344
Yokohama, 3,300
Barcelona, 30 cs.
Batavia, 40
Bombay, 20
Fremantle, 46
Gijon, 50
Hiogo, 1,184 bgs.
Launceston, 9
Oporto, 14
Montreal, 207 5,021 550 kgs.
Palermo, 92 1,050
Patras, 9 brls.
Piræus, 16
Quebec, 1,228
Ro'hampton, 95
S.Sebastian, 100
Singapore, 25
Sourabaya, 4 340
Sydney, 9
Valencia, 19
Venice, 100

Soda Crystals—
Catania, 12 cks.
Alicante, 6 90 bgs.
Cuba, 8
Gibralter, 50 brls.
Iquique, 20 kgs.
Malta, 50
Montreal, 30 300 bgs.
Piræus, 25
Portland, 133
Quebec, 10 90 kgs.
Shanghai, 42
Valparaiso, 500 kgs.
B. Ayres, 154
Copenhagen, 5
Panama, 2
Santander, 50 brls.
Yokohama, 595 bgs.
Adelaide, 134
Bombay, 3 84
Calcutta, 517
Cape Town, 20
Corfu, 10 bxs.
Dunedin, 40
Fremantle, 300
Hiogo, 50 bgs.
H. Kong, 42 kgs.
Lisbon, 150
Las Palmas, 2 hhds.
Malta, 30
Palermo, 190
Perth, 14 170
P. Arenas, 107
Quebec, 205
Rangoon, 145
San Salvador, 80
S. Johns, 75
Sydney, 401
Valencia, 160 60 bgs.
Varna, 140 dms.

Sodium Borate—
Rotterdam, 5 t. £75

Sodium Peroxide—
Patras, 1 c. £6

Sodium Silicate—
Brazil, 5 brls.
B. Ayres, 308
Melbourne, 38
Pasages, 40
Port Elizabeth, 8
Genoa, 350 bgs.
Malaga, 54 cks. 201
Samarang, 40
Seattle, 50

Sodium Sulphide—
Melbourne, 8 t. 1 c. £37

Sulphate of Lime—
Brisbane, 5 c. £7

Sulphur—
New York, 1 t. £18
Desterro, 19 c. 8
Para, 2 1
Stockholm, 100 450
Norrkoping, 150 674
St. Johns, N'fld., 10 15 43
Christiania, 25 125
Parnahyba, 2 16 7

Sulphuric Acid—
B. Ayres, 1 cs. £1
S. Leone, 2 bskts. 5
Maranham, 2 t. 5 c. 24
Opobo, 3 5
Pernambuco, 1 —
Oporto, 7 8
C. Town, 19 9
B. Ayres, 2 4

Superphosphate—
Malaga, 180 t. £495
Las Palmas, 5 bgs. 2
Bilbao, 198 617
Almeria, 198 596
Aquilas, 198 587
Lisbon, 99 371
Valencia, 252 10 c. 593

Superphosphate of Bone—
Las Palmas, 2 t. £7

Tallow—
Burutu, 1 ck.
Galatz, 24
Lisbon, 4
Assini, 2
Corunna, 17 23 brls.
Rotterdam, 126 bgs.
St. Peterburg, 22

Tartaric Acid—
St. Johns, N'fld., a qty.
Valparaiso, 2 c. £25
Talcahuano, 1 5

Tin Crystals—
Bombay, 12 c. £62

Turpentine—
Manilla, 85 dms.
Vera Cruz, 10
Constantinople, 8 brls.
Hsin Ho. Wf., 20
Iquique, 25
Madeira, 1

White Lead—
Champerico, 10 kgs.
Vera Cruz, 5 brls.
P. Elizabeth, 10
Sydney, 480 dms.

Zinc Chloride—
B. Ayres, 2 t. 4 c. £38
Toronto, 4 9 49
Bombay, 2 8 30

Zinc Muriate—
Bombay, 2 t. £28
Maranham, 6 c. 45
Alexandria, 1 14
New York, 3 9 55
Karachi, 10 8

Zinc White—
Delagoa Bay, 30 kgs.

MANCHESTER.

Week ending October 16.

Ammonium Muriate—
Montreal, 32 cks.
Tripoli, 3 kgs.

Antimony Salt—
Bombay, 1 kg.

Bleaching Powder—
Alexandretta, 6 cks.

Calcium Sulphydrate—
Antwerp, 100 brls.

Caustic Soda—
Sfax, 3 dms.
Sousse, 5

Chalk—
Rouen, 34 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 4 cks.
Alexandretta, 4 kgs.
Alexandria, 220 bgs.
Bombay, 102 brls.
Jaffa, 20
Malta, 5 cks.
Montreal, 42 30 pks.
Rouen, 21
Treport, 14 / 109 t.

Citric Acid (Crystals)—
Montreal, 10 kgs.

Coal Products—
Aniline
Montreal, 9 cks.
Carbolic Acid
Rouen, 30 btls.
Naphthylamine
Treport, 29 cks.
Antwerp, 113
Pitch
Treport, 52 t. 14 c.
Antwerp, 149

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Colours—
Boston, 7 cks.
Copperas—
Jaffa, 10 brls.
Dyestuffs (*otherwise undescribed*)—
Montreal, 8 cks.
Farina—
Christiania, 7 cks.
Glue—
Rotterdam, 20 cks.
Treport, 1 bg.
Rouen, 38
Glycerine—
Montreal, 20 cs.
Christiania, 1 dm.
Linseed Oil—
Jaffa, 8 brls.
Manure—
Antwerp, 10 t. 10 c.
Potassium Bichromate—
Treport, 4 cks.
Salammoniac—
Mersyne, 8 cs.
Salt—
Montreal, 9,000 sks.
Quebec, 3,200
Rotterdam, 180 t.
Soap—
Bushire, 20 bxs.
Alexandria, 71 cs.
Bombay, 10
Cairo, 4 brls.
Sodium Bicarbonate—
Sousse, 40 kgs.
Tunis, 20
Sodium Silicate—
Monastir, 3 cks.
Sousse, 5
Sfax, 4
Sodium Sulphate—
Bombay, 50 bgs.
Turpentine—
Tunis, 13 brls.
Zinc Muriate—
Bombay, 6 cks.
Treport, 1 dm.

GLASGOW.

Week ending October 17.

Ammonium Sulphate—
Barbadoes, 24 t.
Demerara, 350 14 c.
Kobe, 103 3
Osaka, 100 2
Yokohama, 19 1 q.
Basic Slag—
Montreal, 100 t.
Wellington, 50
Caustic Soda—
Rangoon, 10 t. 3 c.
Chemicals (*otherwise undescribed*)
Montreal, £168
Quebec, 20
Auckland, 72
Kobe, 124
Caustic Postah—
Auckland, 1 t.
Citric Acid—
Rangoon, £46
Coal Products (*otherwise undes.*)—
S. America, £206
Coal Products
Creosote
Bordeaux, 39 t. 8 c.
Pitch
Sweden, £193
Canada, 80
Madras, 28
Colours—
Madras, 2 t. 4 c.
Rangoon, £132
Cyanide (*otherwise undescribed*)—
St. Louis, £980
Dyestuffs (*otherwise undescribed*)—
Canada, 17 t. 13 c. 3 q. £160
Ferro Manganese—
Sydney, 300 t.
Ferro Silicon—
Canada, 200 t.
Glue—
Rangoon, £70
Glycerine—
Buenos Ayres, 2 t. 3 c. 2 q.
Hydrochloric Acid—
Trinidad, £31
Linseed Oil—

Alexandria,	6 t.	9 c.	
Pt. Chalmers,	2	9	2 q.
Rio de Jan.,	3	18	2
Wellington,	1		
Auckland,	6	8	
Bombay,	3	2	2
Christchurch,	2		
Karachi,	1		
Manilla,	2	8	2
Rangoon,	11		2

Paraffin Wax—

Bordeaux,	9 t.	4 c.	
Demerara,	1	19	
Nantes,	5	9	2 q.
Paris,	22	1	
Rouen,	9	19	

Potassium Bichromate—

Quebec,	5 t.	19 c.	2 q.
Alexandria,		19	2
Montreal,	17	19	3
Dunedin,	1	3	3
Lyttelton,		15	3
Bombay,	7	15	2
Madras,	2	1	

Potassium Cyanide—
Auckland, £2,627
Nantes, 5 t. 18 c. 2 q.
Red Lead—

Wellington,	2 t.	10 c.	
Canada,	2	6	2 q.
Madras,	1	1	1
Rosario,	4	17	3

Soap—

Alexandria,	1 t.	18 c.	3 q.
Bombay,	2	3	
Colombo,	1	10	
Rangoon,	7	1	2

Starch—
Rio de Jan., £57
Sulphuric Acid—
Demerara, £85
Rangoon, 2,130
Tin Crystals—
Trinidad, 12 c. 1 q.
Turpentine—
Alexandria, £28
White Lead—

Demerara,	2 t.	10 c.	
Algoa Bay,	2		
Auckland,	2	10	
Calcutta,	1	1	2 q.
Dunedin,	1		
Lyttelton,	6	6	3
Monte Video,	3	8	1

HULL.

Week ending October 12.

Ammonium Carbonate—
Danzig, 5 cks.
Ammonium Sulphate—
Dunkirk, 257 bgs.
Marseilles, 200
Naples, 1,419
Chemicals (*otherwise undescribed*)
Abo, 3 cs.
Amsterdam, 24 cks.
Bergen, 8 sks.
Bombay, 16
Christiania, 8 1,658 slbs. 1 23 pks.
Copenhagen, 10 4
Drontheim, 15 5 kgs.
Danzig, 6 35 dms.
Gothenburg, 281 18 1,084 pks.
Genoa, 10
Helsingfors, 5 3
Hamburg, 104
Konigsberg, 28
Karachi, 450
Naples, 15
Marseilles, 130 bgs.
Rotterdam, 33
Reval, 18 dms.
Rouen, 7 20 kgs.
Riga, 20
Stettin, 6 btls.
Sydney, 35
St. Petersburg, 30
Coal Products—
Pitch
Sydney, 6 cs.
Tar
Copenhagen, 1 ck.
Colours—

Amsterdam,	35 cks.		100 sks.
Antwerp,			40 kgs
Bombay,	10	75 cs.	80
Bergen,			4 dms.
Christiania,	31		20
Copenhagen,	5		
Drontheim,		2	40 kgs.
Dunkirk,	7		27 dms.
Gothenburg,	20		
Genoa,	2	7	
Ghent,	7		18
Hamburg,	30	2	90
Konigsberg,	20		
Karachi,		18	80 kgs.
Leghorn,		2	1 dm.
Melbourne	168	29	220 83 pks 266 kgs.
Port Said,	2	6	
Rouen,	5		
Stettin,	19	5	11
	1 tin		4 dms.
Stockholm,	10 cks.		
St. Petersburg,		27	23 74
Sydney,	388		1,077 pks.
Wyburg,	250		

Cottonseed Oil—

Amsterdam,	37 t.	5 c.
Antwerp,	1	1
Bremen,	6	5
Copenhagen,	5	
Danzig,	1	1
Gothenburg,	6	13
Hamburg,	32	18
Rotterdam,	3	12
Stettin,	4	4
Stockholm,	6	17
Stavanger,	2	2

Dyestuffs (*otherwise undescribed*)—
Antwerp, 28 cks.
Stettin, 1 cs.
Glue—
Gothenburg, 100 bgs.
Sydney, 44 16 cs.
Linseed Oil—
Adelaide, 18 t. 15 c.
Antwerp, 8
Bombay, 10 11
Christiania, 3 15
Drontheim, 2 13
Gothenburg, 10
Harlingen, 3
Hamburg, 2 15
Karachi, 2
Melbourne, 73 4
Port Said, 17
Rotterdam, 6
Stettin, 1
Sydney, 149 4
Stavanger, 11
Salt—
Copenhagen, 37 cs.
Gothenburg, 55
Stockholm, 25
Tallow—
Riga, 31 cks.
Turpentine—
Adelaide, 20 cs.
Antwerp, 4 cks. 2
Christiania, 4
Copenhagen, 5
Gothenburg, 1
Ghent, 95 dms.
Karachi, 1
Melbourne, 1
Rotterdam, 13 1 tin
Stettin, 3
Stockholm, 135
Sydney,

TYNE.

Week ending October 12.

Antimony (Regulus)—

Rotterdam,		18 c.	
Hamburg,	14 t.	4	14 lb.

Barium Binoxide—

Hamburg,	5 t.	14 c.		17 lb.
Genoa,	14	18		3
Leghorn,	60	13	3	9
St. Petersb'g,	40	10		
Rotterdam,		8		

Bleaching Powder—

Rotterdam,	5 t.	2 c.		13 lb.
Copenhagen,	47	1	2 p.	17
Odense,	9	19	2	20
Helsingfors,	198	11	1	26
St. Petersb'g,	10	2	2	5
Trondhjem,	2	2		18

Caustic Soda—

Copenhagen,	13 t.	1 c.		18 lb.
Helsingfors,	567		1 q.	17
Genoa,	8,195			2
Leghorn,	24	4	2	19
Antwerp,	3	9	2	16

Iron Oxide—
Figueira, 2 t. 8 c. 16 lb.
Magnesia—
Genoa, 2 q.
Magnesia (Calcined)—
Genoa, 1 t. 7 c. 15 lb.
Manure—

Oporto,	119 t.	15 c.	1 q.	27 lb.
Lisbon,	636	11	3	10
Leghorn,	20	9		

Red Lead—

Rotterdam,	2 t.	5 c.	2 q.	22 lb.
Copenhagen,	1	14	3	1
Hamburg,	5	4	1	8
Amsterdam,	1	1	3	7
Genoa,	6	11	1	27
Leghorn,	12	4		12

Soda Ash—

Amsterdam,	7 t.	7 c.	3 q.	25 lb.
St. Petersb'g,	27	7	2	8

Soda Crystals—
Rotterdam, 10 t.
Sodium Sulphide—

Genoa,	7 t.	2 c.	2 q.	10 lb.
Leghorn,	5	1	2	15
St. Petersb'g,	20			
Antwerp,	100			

Tallow—
Leghorn, 5 t. 3 c. 26 lb.
White Lead—

Copenhagen,	4 t.	12 c.	1 q.	21 lb.
Hamburg,	13	15	3	24

GOOLE.

Week ending October 12.

Ammonium Sulphate—
Rotterdam, 50 t.
Chemicals (*otherwise undescribed*)
Amsterdam, 90 cs. 2 dms.
Antwerp, 3 cks.
Boulogne, 7 10
Hamburg, 1
Rotterdam, 70 20 brls.
Coal Products (*otherwise undes.*)—
Amsterdam, 42 cks.
Boulogne, 202
Coal Products—
Benzol
Boulogne, 79 cks. 21 dms.
Rotterdam, 25
Pitch
Antwerp, 52 t.
Colours—
Antwerp, 14 cks. 4 cs.
Boulogne, 3 8
Rotterdam, 3
Antwerp, 1
Dyestuffs (*otherwise undescribed*)—
Boulogne, 6 cks. 2 cs.
Dunkirk, 16
Rotterdam, 6
Glue—
Boulogne, 16 cks. 2 bgs.
Manure—
Dunkirk, 742 bgs.

GRIMSBY.

Week ending October 12.

Basic Slag—
Esbjerg, 355 bgs.
Chalk—
Hamburg, 4 cks.
Chemicals (*otherwise undescribed*)
Dieppe, 1 kg.
Hamburg, 8 cks. 10
Rotterdam, 11
Skein, 9,230 slbs.
Coal Products (*otherwise undes.*)—
Dieppe, 18 brls. 3 dms.
Colours—
Antwerp, 1 cs.
Hamburg, 5 cks.
Manure—
Hamburg, 801 bgs.

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PRICES CURRENT.

FRIDAY, October 25, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids:—				
Acetic, 25% and 40%	per cwt.	9/-	&	13/-
„ Glacial	„		40/-	
Arsenic S.G. 2,000°	„		31/-	
Fluoric	per lb.	0	0	4½
Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
„ (Cylinder), 30° Tw.	„	0	2	9
Nitric 80° Tw.	per ton	14	15	0
Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	„	0	0	10½
Picric	„	0	0	11
Sulphuric (fuming 70%)	per ton	6	0	0
„ (Pyrites, 168°)	„	3	2	6
„ („ 150°)	„		30/-	
„ (free from arsenic, 145°)	„		36/-	
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic	per lb.	0	1	3
Tartaric	„	0	0	11½
Acetone	per ton	82	10	0
Arsenic, white powdered	nett	30	5	0
Alum, loose lump (delivered)	„	5	12	6
Alumina Sulphate (pure)	„	4	7	6
Aluminoferric	„	2	12	6
Aluminium (Ingot metal 98/99%)	nett „	200	0	0
Ammonia, Anhydrous	per lb.	0	1	1
„ .880	per ton	24	0	0
„ .920	„	13	0	0
„ Carbonate	per lb.	0	0	3½
„ Muriate (grey)	per ton	25	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
„ Nitrate	per ton	36	0	0
„ Phosphate	„	38	0	0
„ Sulphate (grey), London	„	11	17	6
„ „ „ Hull	„	11	18	9
„ „ „ Manchester	„	11	17	6
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	„	0	0	4½
Antimony	per ton	45	0	0
„ (tartar emetic) 43/44%	per lb.	0	0	9½
„ (golden sulphide)	„	0	1	3
Barium Chloride	per ton	7	5	0
„ Carbonate (native), 92/94%	„	5	0	0
„ Sulphate (native levigated)	„	45/-	to	65/-
Bisulphide of Carbon	„	18	10	0
Bleaching Powder, 35%	nett	4	7	6
„ Liquor, 7%	„	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	„	20/-	to	27/6
Coal Tar Products and Dyes:—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	„	0	2	3
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8½
„ 50/90	„	0	0	9
Carbolic Acid (crude 60°)	„	0	1	8
„ (crystallised 40°)	per lb.	0	0	5½
„ (liquid 95/97%)	per gallon	0	1	3
Creosote (ordinary), naked	„	0	0	2¾
„ (filtered for Lucigen light)	„	0	0	3¼
Crude Naphtha, 30% A @ 120° C.	„	0	0	3½
Grease Oils, 18° Tw. (naked)	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	1	4	0
Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	56	10	0
„ Sulphate	„	21	10	0
„ Oxide (copper scales)	„	50	0	0
Glycerine (crude), 80%	„	33	0	0
„ (distilled S.G. 1260°)	„	58	10	0
Iodine	nett per oz.	0	0	6
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide	„	3	10	0
Lead (sheet)	„	20	10	0
„ Litharge Flake (ex ship)	„	23	0	0
„ Acetate (white)	„	31	0	0
„ „ (brown)	„	26	0	0
„ Carbonate (white lead), pure	„	25	10	0
„ Nitrate	„	33	0	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
„ „ (grey) 80%	„	12	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
„ Chloride	per ton	3	7	6
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton	17	0	0
„ Sulphate (Epsom Salts)	„	3	0	0
Manganese, Sulphate,	„	17	10	0
„ Borate	per cwt.	2	2	6
„ Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5
Naphtha (Wood), Solvent	„	0	2	4
„ „ Miscible, 60° O.P.	„	0	1	10
Oils:—				
Cottonseed	per ton	26	0	0
Linseed	„	25	5	0
Stearine	„	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
„ (red)	„	0	1	11
Potassium, Bichromate	nett „	0	0	3½
„ Carbonate, 90% (ex ship)	per ton	19	10	0
„ Chlorate	per lb.	0	0	3½
„ Cyanide, 98%	„	0	0	8½
„ Hydrate (Caustic Potash), 90%	per ton	25	10	0
„ „ „ 75/80%	„	21	0	0
„ Potash Hydrate Liquid, 50%	„	14	10	0
„ Nitrate (refined)	„	23	10	0
„ Permanganate (small crystals)	per cwt.		36/-	
„ Prussiate (yellow)	per lb.	0	0	5½
„ Sulphate, 90% (ex ship)	per ton	9	15	0
„ Muriate, 80% „	„	9	0	0
Silver (metal)	per oz.	0	2	4⅜
Sodium (metal)	per lb.	0	3	0
„ Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
„ „ (Caustic Soda-ash), 48% „	„	5	10	0
„ „ (Carb. Soda-ash), 48% „	„	5	10	0
„ „ (Alkali), 58% (bags)	„	4	10	
„ „ (Soda Crystals)	„	2	17	
„ Acetate (ex ship)	„ „	17	5	0
„ Arseniate, 45%	„ „	24	0	0
„ Borate (Borax), Crystals	„ „	16	0	0
„ Bichromate	per lb.	0	0	3
„ Cyanide (100% basis)	„ „	0	0	7½
„ Chlorate	„ „	0	0	3½
„ Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
„ „ (74% C. Soda) „	„ „	10	15	0
„ „ (70% C. Soda) „	„ „	10	5	0
„ „ (60% C. Soda) „	„ „	9	5	0
„ „ (pure liq. 90° Tw.)	„ „	4	15	0
„ 77/78% powdered (99% hydrate)	per ton	12	10	0
„ Bicarbonate (cwt. kegs)	„	6	15	0
„ Hyposulphite	„	6	5	0
„ Manganate, 25%	„	20	0	0
„ Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
„ Nitrite, 98%	per ton	29	10	0
„ Phosphate	„	9	5	0
„ Prussiate	per lb.	0	0	3½
„ Silicate (glass)	per ton	5	5	0
„ „ (liquid, 100° Tw.)	„	3	17	6
„ Stannate, 40%	per lb.	0	0	9
„ Sulphate (Salt-cake)	per ton	2	2	6
„ „ (Glauber's Salts)	„	1	15	0
„ Sulphide (crystals)	„	6	5	0
„ Sulphite	„	6	5	0
Strontium Hydrate, 100%	„	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¼
„ Barium, 95%	„	0	0	3½
„ Potassium	„	0	0	7
Sulphur (Flowers)	per ton	6	10	0
„ (Roll Brimstone)	„	6	5	0
„ Brimstone (Best thirds) (ex ship)	„	4	12	6
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	33	10	0
Tin Crystals	per lb.	0	0	10½
„ English Ingots	per ton	145	0	0
Zinc (Spelter)	„	21	15	0
„ Chloride (solution, 100° Tw.)	„	6	5	0
„ Sulphate, Crystal	„	7	10	0

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THE

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CURRENT TOPICS.

COMMERCIAL ATTACHES AND AGENTS.

A report by Sir E. Gorst and Mr. Llewelyn Smith, on Commercial Attachés and Agents, which has just been issued, contains some interesting recommendations for dealing with the defects of the present system of representation.

It is recommended that the existing Commercial Attachés should have their headquarters in London, and should divide their time between special investigations abroad, work in the Board of Trade, in the Commercial Department of the Foreign Office, and visits to manufacturing districts in the United Kingdom. In view of the wide areas assigned to Commercial Attachés, it would be more convenient for them to start from London, while their inquiries would be of very much greater value if directed to special objects by instructions from the Department, or the Commercial Intelligence Committee, or by experience gained in systematic visits to British commercial centres. The Commercial Attachés at the more distant ports, and in countries such as Turkey, China, etc., should continue to have their headquarters in those countries, but to move about within their districts and pay periodical visits to the principal centres of English industry.

The functions at present performed by Commercial Agents should, it is suggested, be discontinued, and assigned instead to members of the Consular Service, which should be increased where necessary. The current commercial business of the Diplomatic Missions should be in charge of a specially selected member of the Diplomatic staff designated by the Head of the Mission, and receiving special allowance while actually discharging its functions. The annual sum of £1,000. would, it is estimated, cover the necessary expenditure. In order that the commercial community may realise that there is a special officer in each Mission with whom they can communicate on commercial questions, the member of the staff selected for this purpose should have a distinctive title.

SMOKE AND CONSUMPTION.

The *Frankfurter Zeitung* states that during the last twenty-five years the mortality from consumption in Germany has been steadily on the increase. This is particularly noticeable in manufacturing districts, such as the Rhenish counties in the Prussian Black Country. Smoke directly predisposes to lung disease, and is very favourable to the advance of tuberculosis. The chief blame for the smoke nuisance must, however, be attributed to the domestic and not the industrial chimney—a point which has been emphasised in these columns on several occasions. The only remedy for the smoke nuisance, in the opinion of the writer in the *Frankfurter Zeitung*, would be for the law to compel the creators of the nuisance to live within their

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sphere of influence; but this, like all drastic measures, will not be attained until the public takes a real and absorbing interest in healthy conditions of town life.

THE VIOLATION OF FOREIGN TRADE MARKS.

The growing evil of the illegal practices of Japanese traders is the subject of an article by a correspondent of the *Manchester Guardian*. "The high tariff," says the writer, "now imposed on all foreign imports, forbids their use to the majority of people in Japan, and in consequence of this traders are tempted to resort to fraudulent methods. Japanese courts afford no protection to duly registered trade marks, and the offender is allowed to carry on his infringement of them with impunity."

A notable case of this kind has just been dismissed from the Japanese courts. A Japanese wine merchant appropriated the trade mark of Messrs. James Buchanan and Co.—the makers of the well-known "Black and White Whisky"—and did a flourishing trade in Scotch whisky made in Japan. The British firm prosecuted the offender, asserting that he had not only violated the trade mark regulations of the Empire, but had caused them serious losses by imitating their goods. The accused pleaded guilty to the charge, but the judge turned from the point at issue and ordered an investigation as to which of the two makes of whisky was the better; this irrelevant question being decided in favour of the Scotch firm, the judge passed a verdict of "not guilty" on the defendant! The case was carried into a higher court, but with the same result. This is but one instance of the judicial logic of Japan.

The writer observes that Japan's commercial reputation abroad is being seriously affected by such judicial ruling. Close imitations of various kinds of foreign articles are being constantly produced and sold, not only in Japan, but in China, Korea, and Manchuria, as genuine foreign goods. An example of this may be seen in the case of Messrs. Carlowitz and Co., whose registered name had been used through the whole of China by a Japanese merchant of Osaka; but the verdict of the Japanese Bureau was that the accused's action did not constitute a breach of the law, as the name of the foreign firm—they had used it for nearly thirty years—was not established as exclusively their own. Amongst other successful imitations may be cited Huntley and Palmer's biscuits, Bryant and May's matches, and many other first-class foreign productions. The average Japanese or Chinese customer does not examine a label; he is influenced chiefly by the foreign trade mark, and, except in the matter of cottons and such like goods, will buy the article with the most familiar trade mark, and with but little thought as to its real quality.

NITRATE OF SODA.

A financial crisis has been reached in Chili, and money has become extremely dear in Germany. This combination of adverse circumstances in the home and principal outlet respectively of the fertiliser has naturally exercised an unfavourable influence on the market, which remains weak in all positions, sales being more particularly pressed on the West Coast. In the absence of buyers, prices are quite nominal at about one shilling per quintal below those paid at this time last year for prompt shipment; the reduction in the case of cargoes is not more than ninepence per cwt., but buyers, who twelve months ago were numerous, are now not to be found. Fortunately for holders the east wind has delayed arrivals, but many vessels are due at port of call, and the market will be fairly tested at an early date. In the meantime, valiant efforts are being made to support it by means of private estimates of small shipments and restricted output. Interesting developments are at hand.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

A MEETING of this Section took place in Glasgow on the evening of Friday, October 25, in the Chemical Department of the University Buildings. The Chairman of the Section, Mr. John S. Macarthur, presided, and there was a fair attendance of members. Mr. Emil Westergaard delivered a paper, illustrated by diagrams, on "The Use of Lovibond's Tintometer, and its Application to the Analysis of Potable Spirits," in which he dealt with the determination of minute quantities of acetaldehyde and furfurol by means of colour reactions, and the use of Lovibond's tintometer for that purpose. There was also considered at some length a suggestion for a new method of using the tintometer, and for the extension of its use to colour reactions in general. The latter part of the paper dealt with the results obtained from an examination of samples of different whiskies, to the number of three dozen in all. A discussion of the subject followed the reading, and a hearty vote of thanks was awarded to the author.

The only other paper on the agenda was one on the "Production of High Vacua by Calcium," by Mr. Frederick Soddy, M.A. This paper dealt with Mr. Soddy's electric furnace for heating substances to high temperatures in glass vessels, capable of being exhausted to a high vacuum, and with the use of calcium in the furnace for the absorption of gases, the production of high vacua, and of inert atmospheres such as argon. In this case, also, informal discussion followed the reading.

MERCURY PRODUCTION IN RUSSIA.

THE *Viestnik Finanssoff* gives a table of the results of mercury smelting in Russia which, concentrated as it is in the factory belonging to the A. Auerbach and Co. mercury establishment, near the Nikitoff Mercury Mines, which belong to the company named, still declines in volume. The decrease for the first seven months of this year is from 7,857 poods last year to 5,177 poods. In order to show the progress of the decline, last year's productions are given month by month, in poods, against the corresponding month of this year.

"Thus we see," continues the journal, our "relatively small production falls away month by month, and there is reason to fear that in the near future it will be reduced to nil; for on the one hand there is the unfavourable tendency of the world's mercury market, and on the other the increased cost of extracting the ore at the Nikitoff Mine, which must soon (if it has not done so already) make mercury production an unprofitable undertaking in Russia.

INSTITUTE OF CHEMISTRY.—The annual dinner of the Institute of Chemistry will be held at the Whitehall Rooms, Hotel Metropole, W.C., on the evening of Friday, November 22, 1907, at 7-30 o'clock. Professor Percy F. Frankland, LL.D., F.R.S., President, will be in the chair. The event will celebrate the 30th anniversary of the foundation of the Institute.

GERMAN CHEMICALS.—The shareholders of the Elberfeld Colour Works and Badische and Berlin Anilin Companies agreed at special meetings held last week to the increases of capital proposed by their respective boards. The increase will be £750,000. (to £1,800,000.) in the case of each of the first two concerns, and £250,000. in that of the third, the issues of new shares being guaranteed by leading bankers. In order to be independent of the Coal Syndicate in the matter of fuel supplies, the above Companies have secured, at the price of £885,000., a controlling interest in the Auguste Victoria Collieries, on which it is further intended to expend a million sterling in development work in the course of the next ten years. The balance of new capital will be used in connection with the Norwegian Artificial Nitrate Works already referred to in these columns. A considerable fall has taken place in the shares of these Companies in view of an expected reduction in dividends, pending the full development of the new business.

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THE REVISED BRITISH STANDARD SPECIFICATION FOR PORTLAND CEMENT.

[*Reprinted, by permission of the Editor, from "Concrete and Constructional Engineering," September, 1907.*]

PROBABLY no one welcomed the formation of the Engineering Standards Committee in the year 1903 more than the British cement manufacturer, who for years had been labouring under the not inconsiderable difficulties of having to produce his cement to a multiplicity of specifications to suit the constantly varying ideas and requirements, and even fads, of engineers, not only in this country, but in the Colonies and abroad. Almost every engineer and architect had his own views as to fineness of grinding, strength, and chemical composition, for which in many cases he could give no adequate reason; while a variety of tests were in vogue, many of which were of small practical value in determining the true quality of the product. These fads and fancies undoubtedly put the manufacturer to very considerable inconvenience in preparing cement for the market, and often resulted in serious friction between seller and buyer, as beyond all question parcels of cement were frequently rejected by engineers of good repute either at the works, or—what was worse from the manufacturer's point of view—after delivery, which were of first-rate quality and quite equal to the standards set up by other equally eminent engineers.

It has been said that special requirements necessitate special specifications. Although this is undoubtedly true so far as the setting properties of the required cement are concerned, there is no reason why a specification should not be devised acceptable alike to the manufacturer and to the professional man, which would procure the manufacture of a cement of unimpeachable quality and suitable for every purpose. Such specifications have been satisfactorily in use abroad for many years past, and the success which attended the introduction of the British Standard Specification some three years ago is sufficient evidence that a uniform standard specification filled a much-needed want in this country. It was immediately adopted by Government Departments, municipal authorities, harbour and water boards, railway companies, and, indeed, almost all the principal users of Portland cement throughout the country, and also very largely in the British Colonies and Dependencies. Its effect upon the product itself has been great, and a considerable percentage of the cement now manufactured in this country conforms to the high standard laid down in the specification, largely due to the finer grinding of the raw material and of the finished product, an expensive matter, which in many cases doubtless has necessitated the provision of new plant, and to more efficient burning and selection of clinker, which also entails additional expenditure.

The British Standard Specification, which has again come prominently before the public on the recent issue of a revised edition, has naturally not escaped criticism, particularly regarding the Le Chatelier boiling test for soundness, which, on its introduction, some authorities, including Mr. D. B. Butler, considered unnecessarily severe, and likely to result in frequent condemnation of good sound cement. The Committee, however, have retained this test in the revised specification, and have even made it somewhat more stringent. The Committee is composed of eminent representatives of the technical professions as well as of manufacturers and of important users, and it may therefore be assumed that they were satisfied that experience extending over a period of three years had fully justified its adoption, and that the fears expressed by certain experts as to the commercial value of this test have not been realised in actual practice. The Faija test for soundness, which Mr. Butler prefers, is a useful one, and one that is still largely employed in the laboratories of the leading works in this country, but the balance of opinion appears to be decidedly in favour of the one adopted by the Committee. In the original specification the limit of expansion after twenty-four hours' aeration was 12 mm., and after seven days, 6 mm.; it has now been reduced to 10 mm. and 5 mm. respectively.

With regard to fineness, no user is likely to quarrel over the reduction in the residue on the 180-mesh sieve, which is now not to exceed 18 per cent. as against 22½ per cent. in the original specification, the residue at 3 per cent. on the 76-mesh sieve remaining unaltered. Fineness of grinding is of prime importance in the production of a high-grade cement, and long ago our leading manufacturers recognised the commercial advantages to be gained from a pre-eminence in this respect. There exist factories in this country producing cement as a matter of every-day practice, with a residue of 5 to 6 per cent. on the 180-mesh sieve, and we doubt if this record is equalled by any concern outside the United Kingdom. The reduction of cement to this exceeding fineness is obviously an expensive operation, for reasons which will appeal to anyone with a knowledge of grinding costs, and it is therefore all the more pleasing that we have in our own country enterprising firms who are not merely content to conform to the high standard required of them, but are determined to be well in advance of it.

The requirements as to tensile strength of neat cement remain without change—namely, 400 lb. per sq. in. at seven days from gauging and 500 lb. per sq. in. at twenty-eight days, but the proportion for the increase from seven to twenty-eight days has been reduced. An increase of 10 per cent. is now required when the seven days' test falls between 550 lb. and 600 lb., and 5 per cent. when the seven days' test is 600 lb. or upwards. The specified tensile strength of sand briquettes has been increased from 120 lb. at seven days from gauging, and 225 lb. at twenty-eight days to 150 lb. and 250 lb. respectively, the percentage of increase from seven to twenty-eight days remaining as before at 20 per cent.

It is a matter of regret that there should be in this revised specification some points of considerable importance which are lacking in that definite and clear description which might have been expected of the Committee, particularly in view of the difficulties which we understand have arisen from the same cause under the old specification, not only as between the manufacturer and the expert, but between the experts themselves. For instance, the quantity of water to be used in gauging is still vaguely defined as "being appropriate to the quality of the cement, and shall be so proportioned that when the cement is gauged it shall form a smooth easily-worked paste that will leave the trowel cleanly in a compact mass." There may be some difficulty in fixing a definite percentage of water which would be generally acceptable, for this depends upon such considerations as the age of the cement, the fineness to which it is ground, and the temperature and dryness of the air, but the description of "compact mass" is capable of being construed very differently by different individuals, and we can well understand that this absence of clearness of expression may result in friction in the future, as we are informed it certainly has in the past.

Then, on the controversial point as to when the cement is really set, the Committee again make use of the following words, which appeared in the original edition:—"The cement shall be considered as finally 'set' when a 'needle' . . . . fails to make an impression when its point is applied gently to the surface." The question will still arise as to what is an impression. It is well known in the trade that pats made of cement of unquestionable quality, particularly that made by the rotary kiln process, will show a *slight* impression some hours after the actual final set has taken place, and it is therefore open to an expert reading the above words literally to reject the cement offered on the ground of its being too slow-setting. It is to be hoped that the Committee will give their serious attention to these important points with a view to more definite description when the time comes for a further revision.

We would venture to make a further suggestion to the Committee—namely, that in any future edition they may publish, the metrical equivalents should be given of the British terms which are used. The British manufacturer, fortunately for himself and for the country at large, carries on a considerable foreign business, and in many markets—for instance, in South America—we think the carrying out of our suggestion would be welcomed by both buyer and seller, and would tend, we feel sure, to a wider adoption of the specification itself outside the United Kingdom.

With regard to setting time, the specification recommends three distinct grades—namely, "quick," "medium," and "slow"; and it is understood that this classification has worked well since it was introduced in 1904. "Quick" is defined as not less than ten minutes nor more than thirty minutes; "medium" as not less than half-an-hour nor more than two hours; and "slow" as not less than two hours nor more than seven hours, as against five in the original edition. In the official *communiqué* of the Engineering Standards Committee it is stated that the Sectional Committee have had under their consideration for some time past the question of making some stipulation as to initial setting time, and experiments have been and are being carried out with a view to the inclusion of a clause dealing with this point.

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The permissible addition of calcium sulphate (gypsum) at 2 per cent. remains unaltered, but the percentage of sulphuric anhydride has been raised from 2.5 per cent. to 2.75 per cent. We are inclined to doubt whether this will meet with unqualified approval in view of the prejudice which exists among many of our leading engineers regarding the use of gypsum. The percentage of magnesia at 3 per cent. and the insoluble residue at not exceeding 1.5 per cent. remain unchanged. An example is given showing the method of calculating in chemical equivalents the proportion of lime to silica and alumina. The design of the standard needle has been slightly modified with a view to diminishing the risk of injury and to allow of the ready replacement of the point if damaged, but no alteration in the essential features has been made.

One other point of importance may be mentioned, and that is the stipulation which appears in the revision that the cement shall be delivered in packages marked with the manufacturer's name. It is not without interest to observe that the report of the Joint Committee on reinforced concrete, adopted by the Royal Institute of British Architects on May 27th last, and published *in extenso* in the last issue of this Journal (*C. & C.E.*), advocates a similar requirement as to cement delivered for reinforced concrete work. That these two important bodies, acting independently of each other, should be in agreement in this respect is not without significance. It now remains for the consumer, for whose protection this stipulation has been adopted, to see that the requirement is rigidly conformed to.

The Committee are, we understand, making certain investigations, the desirability of which has been brought to their notice, but they decided not to hold back the issue of the present revision pending the completion of these experiments, which are likely to occupy some considerable time. A prospect is thus held out of a still further revision at no distant date. Finality in the matter of a standard specification for cement, like most other things in this world, is not likely to be reached yet awhile, and in the march of progress the labours of the Committee may be in requisition for a long time to come. Meanwhile, the thanks of that large section of the community which is interested in constructional work in this country are due to those gentlemen who have gratuitously given their services in a public cause, and have produced a standard specification which, although possibly still open to some criticism, is of undoubted value, and much in advance of anything that preceded it.

ON THE ELECTROLYSIS OF SALT SOLUTIONS IN LIQUEFIED SULPHUR DIOXIDE AT LOW TEMPERATURES.

BY BERTRAM D. STEELE, D.Sc.*

THE investigation of which this is a preliminary notice is a natural continuation of the research started by Dr. M'Intosh and myself in 1903. The investigation has for its object the study of the electrolysis of salts dissolved in certain liquefied gases, and of the products formed during electrolysis. The first system that has been investigated is that of a solution of potassium iodide dissolved in sulphur dioxide, and a large number of experiments extending over several months have been carried out.

My attention having been called to a proposed investigation along similar lines, of which an abstract appears in the *Journal of the Chemical Society* for April, 1907 (Giuseppe Magri, *J.C.S.*, 92, 11, p. 237), I thought it best to publish the following brief summary of the conclusions that have been so far arrived at :—

(1.) When a nearly saturated solution of potassium iodide in sulphur dioxide is electrolysed between electrodes consisting of thin platinum wires, and with a potential difference of between 10 and 20 volts, a current of about 80 to 100 milliamperes is obtained during the first instant. The current immediately begins to fall rapidly to a value considerably less than 1 milliampere. With a potential difference of about 40 volts apparent gas evolution occurs (possibly ebullition of sulphur dioxide), and on breaking the circuit a polarisation e.m.f. of over 1 volt is obtained.

(2.) With larger platinum electrodes the fall in current is much slower, but after several hours falls to a similar extremely low value. In this case a scarcely detectable polarisation voltage can be observed.

(3.) Similar results are obtained when mercury electrodes are used, but the fall in current is not so marked.

(4.) With platinum and mercury electrodes the current, which is extremely variable and inconstant, appears to depend on the previous history of the electrodes.

(5.) It has been found that a constant and consistent current can be obtained by using a silver, copper, or iron kathode of large area.

(6.) The following changes occur at the anode :

When a platinum anode is used iodine is liberated and dissolved in the surrounding solution.

When a zinc anode is used no iodine is liberated, and the solution remains yellow in colour. It is probable that zinc iodide is formed and dissolved in the solution.

When an iron anode is used no iodine is liberated, but the solution surrounding the anode becomes blackish-green in colour.

When a mercury anode is used mercurous iodide is formed and precipitated, forming a layer on the electrode which appears to cut off the current.

(7.) The following changes occur at the kathode :

When currents of 20 milliamperes and over are used with a platinum kathode there is formed a dark-coloured crystalline deposit, which on drying in an atmosphere of dry sulphur dioxide becomes white. Small quantities of sulphur are always found mixed with this deposit.

The deposit on analysis was found to have a composition very closely corresponding with that required for potassium sulphite, in some cases being, however, much richer in sulphur dioxide.

The platinum kathode, if very small currents are used, is still coated with the potassium sulphite compound, but contains little, if any, admixed sulphur, which is, however, in all cases found dissolved in the solution surrounding the kathode.

The extraordinary manner in which the current falls after the first few moments is thus accounted for by the deposition of a thin film of insulating sulphur on the surface of the kathode.

The deposition of sulphur is prevented by using either a silver or a copper kathode. Under these circumstances a black deposit is formed on the kathode. This deposit is probably silver sulphide or copper sulphide, as the case may be, and as both of these are conducting substances the current is not seriously diminished.

No evidence has yet been obtained of the deposition of potassium as metal on the kathode.

(8.) By means of a specially constructed piece of apparatus the conductivity of the solution in the neighbourhood of the kathode was determined during the progress of the experiment, and in all cases an increase of resistance was observed.

In the same way as the liberation of hydrogen at the kathode during the electrolysis of a solution of potassium iodide in water is regarded as evidence of the occurrence of hydrogen cations in the aqueous solution, so the liberation of sulphur at the kathode in the foregoing experiments indicates the occurrence of sulphur cations in a solution of potassium iodide in sulphur dioxide, and similarly the formation of what is probably potassium sulphite in the latter system is analogous to the formation of potassium hydroxide in the former.

The following is a possible representation of the changes which take place :—

$$S^{\cdot\cdot} + 4\,\Theta = S$$
$$4\,K^{\cdot} + 2\,O'' + SO_2 = 2\,K_2SO_3,$$

the sulphur and the potassium sulphite being deposited together at the kathode.

This would explain not only the formation of these two substances, but also the observed diminution in conductivity of the solution immediately surrounding the kathode.

(9.) After the necessary conditions for obtaining a steady current had been worked out, a special apparatus was designed and constructed for the measurement of ionic velocities of the ions in sulphur dioxide solution, and a few preliminary measurements have been made with this apparatus.

It is intended to extend these measurements and to thoroughly investigate this and other similar systems.

* A paper read before the Faraday Society (communicated by Dr F G. Donnan).

POTASH SALTS IN HOLLAND.—It is reported that while boring for coal at Winterswyk, potash salts were discovered at a depth of about 130 yards.

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THE NEW PATENTS ACT.

PART I.—(*Continued from page 375.*)

Term of Patent.

17.—(1.) The term limited in every patent for the duration thereof shall, save as otherwise expressly provided by this Act, be fourteen years from its date.

(2.) A patent shall, notwithstanding anything therein or in this Act, cease if the patentee fails to pay the prescribed fees within the prescribed times; provided that the comptroller, upon the application of the patentee, shall, on receipt of such additional fee, not exceeding ten pounds, as may be prescribed, enlarge the time to such an extent as may be applied for, but not exceeding three months.

(3.) If any proceeding is taken in respect of an infringement of the patent committed after a failure to pay any fee within the prescribed time, and before any enlargement thereof, the court before which the proceeding is proposed to be taken may, if it thinks fit, refuse to award any damages in respect of such infringement.

18.—(1.) A patentee may, after advertising in manner provided by rules of the Supreme Court his intention to do so, present a petition to the court praying that his patent may be extended for a further term, but such petition must be presented at least six months before the time limited for the expiration of the patent.

(2.) Any person may give notice to the court of objection to the extension.

(3.) On the hearing of any petition under this section the patentee and any person who has given such notice of objection shall be made parties to the proceeding, and the comptroller shall be entitled to appear and be heard, and shall appear if so directed by the court.

(4.) The court, in considering its decision, shall have regard to the nature and merits of the invention in relation to the public, to the profits made by the patentee as such, and to all the circumstances of the case.

(5.) If it appears to the court that the patentee has been inadequately remunerated by his patent, the court may by order extend the term of the patent for a further term not exceeding seven, or, in exceptional cases, fourteen years, or may order the grant of a new patent for such term as may be specified in the order and containing any restriction, conditions, and provisions the court may think fit.

19.—(1.) Where a patent for an invention has been applied for or granted, and the applicant or the patentee, as the case may be, applies for a further patent in respect of any improvement in or modification of the invention, he may, if he thinks fit, in his application for the further patent, request that the term limited in that patent for the duration thereof be the same as that of the original patent, or so much of that term as is unexpired.

(2.) Where an application containing such a request is made, a patent (hereinafter referred to as a patent of addition) may be granted for such term as aforesaid.

(3.) A patent of addition shall remain in force so long as the patent for the original invention remains in force, but no longer, and in respect of a patent of addition no fees shall be payable for renewal.

(4.) The grant of a patent of addition shall be conclusive evidence that the invention is a proper subject for a patent of addition, and the validity of the patent shall not be questioned on the ground that the invention ought to have been the subject of an independent patent.

Restoration of Lapsed Patents.

20.—(1.) Where any patent has become void owing to the failure of the patentee to pay any prescribed fee within the prescribed time, the patentee may apply to the comptroller in the prescribed manner for an order for the restoration of the patent.

(2.) Every such application shall contain a statement of the circumstances which have led to the omission of the payment of the prescribed fee.

(3.) If it appears from such statement that the omission was unintentional and that no undue delay has occurred in the making of the application, the comptroller shall advertise the application in the prescribed manner, and within such time as may be prescribed any person may give notice of opposition at the Patent Office.

(4.) Where such notice is given the comptroller shall notify the applicant thereof.

(5.) After the expiration of the prescribed period the comptroller shall hear the case and, subject to an appeal to the court, issue an order either restoring the patent or dismissing the application: Provided that in every order under this section restoring a patent such provisions as may be prescribed shall be inserted for the protection of persons who may have availed themselves of the subject-matter of the patent after the patent had been announced as void in the illustrated official journal.

Amendment of Specification.

21.—(1.) An applicant or a patentee may at any time, by request in writing left at the Patent Office, seek leave to amend his specification, including drawings forming part thereof, by way of disclaimer, correction, or explanation, stating the nature of, and the reasons for, the proposed amendment.

(2.) The request and the nature of the proposed amendment shall be advertised in the prescribed manner, and at any time within one month from its first advertisement any person may give notice at the Patent Office of opposition to the amendment.

(3.) Where such a notice is given the comptroller shall give notice of the opposition to the person making the request, and shall hear and decide the case.

(4.) Where no notice of opposition is given, or the person so giving notice of opposition does not appear, the comptroller shall determine whether and subject to what conditions, if any, the amendment ought to be allowed.

(5.) The decision of the comptroller in either case shall be subject to an appeal to the law officer, who shall, if required, hear the person making the request to amend and, where notice of opposition has been given, the person giving that notice, if he is, in the opinion of the law officer, entitled to be heard in opposition to the request, and, where there is no opposition, the comptroller, and may make an order determining whether and subject to what conditions (if any) the amendment ought to be allowed.

(6.) No amendment shall be allowed that would make the specification, as amended, claim an invention substantially larger than or substantially different from the invention claimed by the specification as it stood before the amendment.

(7.) Leave to amend shall be conclusive as to the right of the party to make the amendment allowed, except in case of fraud; and the amendment shall be advertised in the prescribed manner, and shall in all courts and for all purposes be deemed to form part of the specification.

(8.) This section shall not apply when and so long as any action for infringement or proceeding before the court for the revocation of a patent is pending.

22.—In any action for infringement of a patent or proceedings before a court for the revocation of a patent the court may by order allow the patentee to amend his specification by way of disclaimer in such manner, and subject to such terms as to costs, advertisement or otherwise, as the court may think fit:

Provided that no amendment shall be so allowed that would make the specification, as amended, claim an invention substantially larger than, or substantially different from, the invention claimed by the specification as it stood before the amendment, and where an application for such an order is made to the court notice of the application shall be given to the comptroller, and the comptroller shall have the right to appear and be heard, and shall appear if so directed by the court.

23.—Where an amendment of a specification by way of disclaimer, correction, or explanation, has been allowed under this Act, no damages shall be given in any action in respect of the use of the invention before the disclaimer, correction, or explanation, unless the patentee establishes to the satisfaction of the court that his original claim was framed in good faith and with reasonable skill and knowledge.

Compulsory Licences and Revocation.

24.—(1.) Any person interested may present a petition to the Board of Trade alleging that the reasonable requirements of the public with respect to a patented invention have not been satisfied, and praying for the grant of a compulsory licence, or, in the alternative, for the revocation of the patent.

(2.) The Board of Trade shall consider the petition, and if the parties do not come to an arrangement between themselves the Board of Trade, if satisfied that a *prima facie* case has been made out, shall refer the petition to the court, and, if the Board are not so satisfied, they may dismiss the petition.

(3.) Where any such petition is referred by the Board of Trade to the court, and it is proved to the satisfaction of the court that the reasonable requirements of the public with reference to the patented invention have not been satisfied, the patentee may be ordered by the court to grant licences on such

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terms as the court may think just, or, if the court is of opinion that the reasonable requirements of the public will not be satisfied by the grant of licences, the patent may be revoked by order of the court.

Provided that an order of revocation shall not be made before the expiration of three years from the date of the patent, or if the patentee gives satisfactory reasons for his default.

(4.) On the hearing of any petition under this section the patentee and any person claiming an interest in the patent as exclusive licensee or otherwise, shall be made parties to the proceeding, and the law officer or such other counsel as he may appoint shall be entitled to appear and be heard.

(5.) For the purposes of this section the reasonable requirements of the public shall not be deemed to have been satisfied—

(*a*) if by reason of the default of the patentee to manufacture to an adequate extent, and supply on reasonable terms the patented article, or any parts thereof which are necessary for its efficient working, or to carry on the patented process to an adequate extent or to grant licences on reasonable terms, any existing trade or industry, or the establishment of any new trade or industry in the United Kingdom is unfairly prejudiced, or the demand for the patented article, or the article produced by the patented process is not reasonably met; or

(*b*) if any trade or industry in the United Kingdom is unfairly prejudiced by the conditions attached by the patentee before or after the passing of this Act to the purchase, hire, or use of the patented article, or to the using or working of the patented process.

(6.) An order of the court directing the grant of any licence under this section shall, without prejudice to any other method of enforcement, operate as if it were embodied in a deed granting a licence and made between the parties to the proceeding.

25.—(1.) Revocation of a patent may be obtained on petition to the court.

(2.) Every ground on which—

(*a*) a patent might, immediately before the first day of January, one thousand eight hundred and eighty-four, have been repealed by scire facias; or

(*b*) a patent may be revoked under this Act either by the comptroller or as an alternative to the grant of a compulsory licence;

shall be available by way of defence to an action of infringement and shall also be a ground of revocation under this section.

(3.) A petition for revocation of a patent may be presented—

(*a*) by the Attorney-General or any person authorised by him; or

(*b*) by any person alleging—

(i) that the patent was obtained in fraud of his rights, or of the rights of any person under or through whom he claims; or

(ii) that he, or any person under or through whom he claims, was the true inventor of any invention included in the claim of the patentee; or

(iii) that he, or any person under or through whom he claims an interest in any trade, business, or manufacture, has publicly manufactured, used, or sold, within this realm, before the date of the patent, anything claimed by the patentee as his invention.

26.—(1.) Any person who would have been entitled to oppose the grant of a patent, or is the successor in interest of a person who was so entitled, may, within two years from the date of the patent, in the prescribed manner apply to the comptroller for an order revoking the patent on any one or more of the grounds on which the grant of the patent might have been opposed.

Provided that when an action for infringement or proceedings for the revocation of the patent are pending in any court, an application under this section shall not be made except with the leave of the court.

(2.) The comptroller shall give notice of the application to the patentee, and after hearing the parties, if desirous of being heard, may make an order revoking the patent or requiring the specification relating thereto to be amended by disclaimer, correction, or explanation, or dismissing the application; but the comptroller shall not make an order revoking the patent unless the circumstances are such as would have justified him in refusing to grant the patent had the proceedings been proceedings in an opposition to the grant of a patent.

(3.) A patentee may at any time by giving notice in the prescribed manner to the comptroller offer to surrender his patent, and the comptroller may, if after giving notice of the offer and hearing all parties who desire to be heard he thinks fit, accept the offer, and thereupon make an order for the revocation of the patent.

(4.) Any decision of the comptroller under this section shall be subject to appeal to the court.

27.—(1.) At any time not less than four years after the date of a patent, and not less than one year after the passing of this Act, any person may apply to the comptroller for the revocation of the patent on the ground that the patented article or process is manufactured or carried on exclusively or mainly outside the United Kingdom.

(2.) The comptroller shall consider the application, and, if after enquiry he is satisfied that the allegations contained therein are correct, then, subject to the provisions of this section, and unless the patentee proves that the patented article or process is manufactured or carried on to an adequate extent in the United Kingdom, or gives satisfactory reasons why the article or process is not so manufactured or carried on, the comptroller may make an order revoking the patent either—

(*a*) forthwith; or

(*b*) after such reasonable interval as may be specified in the order, unless in the meantime it is shown to his satisfaction that the patented article or process is manufactured or carried on within the United Kingdom to an adequate extent:

Provided that no such order shall be made which is at variance with any treaty, convention, arrangement, or engagement with any foreign country or British possession.

(3.) If within the time limited in the order the patented article or process is not manufactured or carried on within the United Kingdom to an adequate extent, but the patentee gives satisfactory reasons why it is not so manufactured or carried on, the comptroller may extend the period mentioned in the previous order for such period not exceeding twelve months, as may be specified in the subsequent order.

(4.) Any decision of the comptroller under this section shall be subject to appeal to the court, and on any such appeal the law officer or such other counsel as he may appoint shall be entitled to appear and be heard.

Register of Patents.

28.—(1.) There shall be kept at the Patent Office a book called the register of patents, wherein shall be entered the names and addresses of grantees of patents, notifications of assignments and of transmissions of patents, of licences under patents, and of amendments, extensions, and revocations of patents, and such other matters affecting the validity or proprietorship of patents as may be prescribed.

(2.) The register of patents existing at the commencement of this Act shall be incorporated with and form part of the register of patents under this Act.

(3.) The register of patents shall be primâ facie evidence of any matters by this Act directed or authorised to be inserted therein.

(4.) Copies of deeds, licences, and any other documents affecting the proprietorship in any letters patent or in any licence thereunder, must be supplied to the comptroller in the prescribed manner for filing in the Patent Office.

(To be continued.)

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

C. and C. E.—You will notice that the article appears this week.

G. L. Co., Ltd.—The blocks have been duly returned, as requested.

N. C., L. C., and J. C.—Thanks for information respecting carbonate of ammonia shipments.

B. and W., Ltd.—We hope to write you direct in the course of a few posts in reply to your query.

F. W. A.—We are greatly obliged by your letter of the 24th ult., and shall be glad to receive the blocks as promised.

A. W. and Sons.—We do not know of any published list of coke ovens in the United Kingdom. You might repeat the query to the Editor of *The Iron and Coal Trades Review*.

A. R.—The firm who formerly supplied this pulveriser have now gone out of the business, and we cannot say where you could obtain one of the machines. You might advertise in the *Journal*.

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Analytical Notes.

THE ARSENATE PROCESS FOR THE SEPARATION OF MAGNESIUM AND THE ALKALIS.

BY PHILIP E. BROWNING AND W. A. DRUSHEL.

Among the methods which have been employed for the separation of magnesium from the alkalis the following are perhaps in most general use :—

The barium hydroxide method, whereby the magnesium is precipitated as the hydroxide by barium hydroxide.

The mercuric oxide method, whereby the magnesia is precipitated by freshly prepared mercuric oxide acting upon the chlorides.

The ammonium carbonate method, whereby the magnesium is precipitated as the double carbonate of magnesium and ammonium by a large excess of ammonium carbonate (Wulfing, *Ber.*, xxxii., 2214).

The amyl alcohol method, whereby the magnesium chloride is dissolved in boiling amyl alcohol and the chlorides of sodium and potassium, not lithium, remain undissolved (Riggs, *Am. Journ. Sci.* [3], xliv., 103).

None of these methods, when employed with a view to the subsequent estimation of the alkalis, is free from objectionable features, such as difficulties of filtration, numerous transfers of filtrates, introduction of large amounts of reagents difficult of removal, and incomplete separation of the entire alkali group.

The work to be described is an effort to avoid some of the objections mentioned, by the precipitation of magnesium as the magnesium ammonium arsenate, and the removal of the arsenate from the filtrate by reduction and volatilisation of the arsenic salt. C. v. Hauer (*Jahrb. der k. k. Geolog. Reichanstalt*, iv., 863) suggested this general procedure, and it has found other mention in the literature (Fresenius-Cohn, "Quant. Anal.," 6th ed., vol. i., 613). The removal of the excess of arsenic was accomplished by ignition of the residue, obtained after evaporating the filtrate from the ammonium magnesium arsenate, with ammonium chloride. The method, however, has been criticised as inaccurate for the estimation of magnesium, and tedious. Recent work upon the precipitation of magnesium ammonium arsenate and upon the volatilisation of arsenic compounds suggested the possibility of obviating the difficulties which have kept this method from general use.

It is possible, with careful manipulation, to remove the arsenic by precipitating with hydrogen sulphide, but this procedure required an additional filtration and several transfers of liquid, and was therefore abandoned in favour of the separation by volatilisation.

The reagents used in this work were prepared as follows: The potassium chloride by igniting pure potassium chlorate and crystallising; the sodium chloride by re-crystallising the so-called pure sodium chloride. Solutions of these salts were made approximately tenth normal and standardised by evaporating measured portions with sulphuric acid in a weighed platinum crucible, and weighing the residues after ignition at the full heat of a Bunsen burner, as the normal sulphates.

A solution of magnesium chloride was obtained by dissolving a weighed amount of pure magnesium in hydrochloric acid and diluting sufficiently to make the solution approximately tenth normal. The solution was standardised by estimating the magnesium in measured portions as the pyroarsenate.

To obtain ammonium arsenate, arsenious oxide was sublimed and oxidised by an access of nitric acid. After the completion of the oxidation, the excess of nitric acid was removed by evaporation, the residue treated with a slight excess of ammonium hydroxide, and the solution thus obtained diluted sufficiently to make it approximately fifth normal.

From a mixture of known amounts of standardised solutions of the chlorides of magnesium and potassium or sodium, the magnesium was precipitated in a distinctly but not strongly ammoniacal solution by 40% to 80% excess of ammonium arsenate, with brisk stirring. When only a small amount of magnesium is present in a relatively large amount of solution, the precipitate forms slowly and becomes complete only on long standing. In a previous paper from the Kent Chemical Laboratory of Yale University (Gooch and M. A. Phelps, *Am. Journ. Sci.*, 1906, xxi., 488), it has been shown that the precipitation of amounts of arsenic so small as not to be precipitated immediately by magnesium mixture may be brought about by freezing the solution after adding that reagent, and remains complete when melting takes place. This procedure was found equally applicable in the precipitation of magnesium. A similar result was obtained by adding alcohol amounting to 15% to 20% of the mixture, and filtering as soon as the precipitate settled completely. The precipitate was collected under moderate pressure in an ignited and weighed perforated crucible containing a close felt of fine asbestos. It was washed with 40 to 50 cc. of ammoniacal water after which it was dried at 125° C. to 140° C. and carefully ignited and weighed as magnesium pyroarsenate.

TABLE II.

	$(NH_4)_3AsO_4$ used, calculated as As_2O_3.	Dilution.	NaCl or KCl converted to Na_2SO_4 or K_2SO_4 and calculated as Na_2O or K_2O.			$MgCl_2$ converted into $Mg_2As_2O_7$ and calculated as MgO.		
			Taken.	Found.	Error.	Taken.	Found.	Error.
	Grm.	Cc.	Grm.	Grm.	Grm.	Grm.	Grm.	Grm.
1.	0.1	100	0.1194	0.1191	−0.0003	0.0199	0.0197	−0.0002
2.	0.2	150	0.1194	0.1196	+0.0002	0.0399	0.0397	−0.0002
3.	0.45	250	0.1194	0.1195	+0.0001	0.0998	0.0998	—
4.	0.45	250	0.1194	0.1194	—	0.0998	0.0997	−0.0001
5.	0.45	250	0.2389	0.2385	−0.0004	0.0998	0.0999	+0.0001
6.	0.4	250	0.0478	0.0481	+0.0003	0.1198	0.1193	−0.0005
7.	0.35	250	0.0956	0.0957	+0.0001	0.0998	0.0996	−0.0002
8.	0.35	250	0.0956	0.0957	+0.0001	0.0998	0.0994	−0.0004
9.	0.45	250	0.0909	0.0915	+0.0006	0.0998	0.0993	−0.0005
10.	0.1	100	0.0545	0.0549	+0.0004	0.0006	0.0004	−0.0002
11.	0.1	100	0.1181	0.1184	+0.0003	0.0040	0.0038	−0.0002
12.	0.1	100	0.1181	0.1184	+0.0003	0.0040	0.0038	−0.0002
13.	0.1	100	—	—	—	0.0040	0.0038	−0.0002
14.	0.1	100	0.1181	0.1184	+0.0003	0.0040	0.0040	—
15.	0.2	100	0.1181	0.1183	+0.0002	0.0040	0.0039	−0.0001
16.	0.45	250	0.1181	0.1179	−0.0002	0.1002	0.1004	+0.0002

In a previous paper from the same laboratory, it has been shown that arsenic may be removed by distillation with potassium bromide and hydrochloric acid in a distilling apparatus (Gooch and I. K. Phelps, *Am. Journ. Sci.*, 894, xlviii., 216). This suggested a method for the removal of the arsenic from the filtrate obtained after separating the magnesium ammonium arsenate. In some preliminary qualitative experiments, solutions containing from 0.1 to 0.2 grm. of ammonium arsenate were treated with 10 cc. of hydrochloric acid (sp. gr. 1.20) and 10 cc. of hydrobromic acid (sp. gr. 1.36), or 1 to 3 grms. of ammonium bromide, and evaporated in an open dish and the residues were ignited until fuming ceased. One such treatment was usually found to be sufficient; in fact, simple evaporation on a steam bath with the mixed acids, or with hydrobromic acid (not with hydrochloric acid alone), proved to be sufficient to remove the arsenic. Similar treatments made in the presence of definite amounts of the sodium or potassium chloride gave the results shown in Table I.

TABLE I.

	Ammonium arsenate calculated As As_2O_3.	NaCl or KCl converted to Na_2SO_4 or K_2SO_4 and calculated as Na_2O and K_2O.		
		Taken.	Found.	Error.
	Grm.	Grm.	Grm.	Grm
1.	0.2	0.1171	0.1172	+0.0001
2.	0.2	0.1171	0.1170	−0.0001
3.	0.4	0.1873	0.1870	−0.0003
4.	0.2	0.0468	0.0473	+0.0005

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Some evaporations made with hydrochloric acid and sulphurous acid resulted in the removal of the arsenic, but three to five repetitions of the process were generally necessary.

The complete method as recommended for the estimation of magnesium and its removal from the alkalis, and the subsequent estimation of the alkalis, is as follows :—

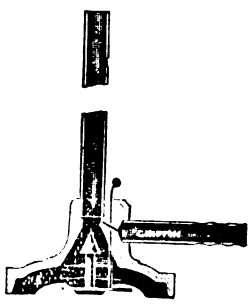
The magnesium is precipitated in a distinctly but not strongly ammoniacal solution by a 40% to 80% excess of ammonium arsenate. The completeness of the precipitation may be hastened by freezing the solution in an ice and salt mixture or by adding alcohol to about 15% to 20% of the total volume of the solution, which may vary from 100 cc. to 250 cc. according to the amounts of salt present. The magnesium arsenate obtained is filtered on an asbestos felt contained in a perforated platinum crucible, the crucible and felt having been previously ignited and weighed, and is dried, ignited, and weighed as the pyroarsenate.

The filtrate is transferred from the filter flask to a platinum dish, and after the addition of 10 cc. of hydrochloric acid (sp. gr. 1.20) and about the same amount of hydrobromic acid (sp. gr. 1.3), or 1 to 3 grms. of ammonium bromide evaporated to dryness under a draught-hood, the residue is gently ignited to remove the ammonium salts. The residue is then transferred to a weighed platinum crucible with a small amount of water, a little sulphuric acid (1 : 1) added, and the solution evaporated to remove the water and excess of sulphuric acid, by placing the crucible on a triangle in a porcelain crucible used as a radiator. After the sulphuric acid has ceased to fume, the crucible is removed from the radiator, and after ignition at the full heat of the Bunsen burner the alkali is weighed as the normal sulphate. The results are given in Table II.

In experiments 1 to 10, the precipitate of magnesium was allowed twelve to twenty-four hours to settle. In experiments 11, 12, and 13, 15% alcohol was used to hasten the complete precipitation of the magnesium, and in experiments 14, 15, and 16 the salt and ice mixture was used for the same purpose.—*American Journal of Science.*

A NEW BUNSEN BURNER.

We have received from Messrs. John J. Griffin & Sons one of their new "Teclu" bunsen burners for laboratory use. The illustration at the side clearly shows the special features embodied, which are (1) that as the gas jet is at the side of the bunsen tube it is thereby unaffected by drips; and (2) the air adjustment permits the temperature of the flame to be instantly varied. We have given this burner a trial in our laboratory, and find that it bears out all that Messrs. Griffin claim for it. It is free from the very objectionable "striking back" when turned low, the air adjustment is very easily made, and an extremely high temperature is obtainable. We can confidently recommend the burner as being one of the best on the market, and its good points, together with its low price (1s. 6d.) should ensure its being very popular.



Cement in Russia.—The Opotchno Cement Factory (Radom) closed its seventh (1906) working year with a loss of £2,277.

Bursting of a Gas Holder.—Considerable damage to neighbouring property was caused last week by the bursting of a gas holder in the goods yard of the Great Central Railway Company at Ardwick, Manchester. The holder, which was nearly new, was used for supplying the railway carriages with gas. It burst with sufficient force to lift the roof off an adjoining school, and to shatter the windows of many shops and houses within a mile. A workman in the yard was badly burnt, but no other personal injury is reported.

University Grants.—The Manchester Education Committee have adopted a resolution expressing regret at the proposed reduction of the grant from the Treasury to the Manchester University. The opinion was expressed by many members of the Committee that by this decision Manchester would be unfairly treated, as a smaller sum was allocated to its University in proportion to its size, and the character of the work which it is doing, than to any other university or university college in the Kingdom.

Continental Notes.

In the *Zeitschrift für Chemische Apparatenkunde* for September 15, A. Dosch concludes his series of articles on plant for controlling the combustion process in steam boilers. In this section he describes the construction of a "gas analysor" which is capable of giving absolutely continuous readings. In the one which was alluded to before in these *Notes* a long tube was filled with the flue gas, and the weight of the column of gas was ascertained by means of a manometer. In the apparatus now described there are two long vertical tubes, which are joined together at their upper extremities and there connected to a suction apparatus. One of these tubes is connected through a cock with the flue, and the other with the open air. The lower ends are also connected with the two ends of a delicate differential manometer, which gives the difference of pressure due to the difference of weight of the two columns. The plant can be made self-registering by attaching a photographing arrangement, which gives the position of the liquid in the manometer at any time.

The same issue contains a description of a plant for the automatic control and regulation of fractional distillation. This acts upon the principle that a hydrometer, which is immersed in the distillate flowing from the still, rises as the specific gravity increases, and when it reaches a certain point makes an electric contact, which may give an optical or acoustical signal, or may be made to operate various cocks by means of electro-magnets and so turn the distillate into the proper vessel. Some details are given of an arrangement of this kind.

In the issues of the same journal for October 1 and 15 there are instalments of a paper by Jakob, on the determination of the heating power of coal by means of the calorimeter. Special attention is paid to the calculations and corrections necessary in order to obtain an accurate result. The first section deals with the "upper and lower calorific values." The upper value is that obtained directly in the calorimeter, where the greater part of the water is condensed to the liquid state in consequence of the low temperature. The lower calorific values are calculated from this by taking into account the heat that has been given out by the condensation of the water and its cooling from 100° C. to the temperature of the calorimeter, and also the heat set free by cooling the carbon dioxide through the same range. In the second section the standardisation of the calorimeter is discussed, and also the determination of its water value. This can be done by three different methods. It can be calculated from the known weights and the specific heats of the constituent parts of the calorimeter, or it can be determined by the method of mixtures, by adding a quantity of warm water to the cold water in the outer vessel of the calorimeter, or, finally, it can be determined by burning known quantities of various organic compounds the calorific values of which are known. The author obtained very different figures for his calorific values by these three different methods, and also found different water values for the calorimeter according to the quantity of water used in the method of mixtures, or the quantity of the combustible compound used in the combustion method. The variations follow a definite law, however, and are of course dependent on the peculiarities of construction of the calorimeter and the method of using it. The author places reliance only on the results obtained by the combustion method. There must, however, always be a sufficient excess of oxygen present to ensure complete combustion. A different water value must be used according to the rise of temperature that is observed in the calorimeter during a determination. The third section deals with the corrections that must be applied in consequence of the use of igniting material for setting the charge off, for the radiation of heat that takes place during the experiment, and for the combustion of the sulphur and nitrogen in the coal sulphuric and nitric acids.

Electrolytic Copper in Russia.—A group of copper smelters is organising a syndicate under the style of "Electrolyse" for the purpose of erecting an electrolytic factory. The Russian demand for electrolytic copper ranges between 400,000 to 500,000 poods a year, and for bar copper between 1,000,000 to 1,100,000 poods, but the home production of the article is very small indeed. The present idea is to erect a well-equipped central factory, in all probability in Moscow. The question of carriage to and from the factory will be a serious one, and the promoters of the new concern are agitating for favourable rates.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Producing Hydrogen Gas. A. F. Penraven. 22,602. October 14.
Aluminium. S. O. Cowper-Coles. 22,620. October 14
Electro-Galvanising. The Cowper-Coles Galvanising Syndicate, Ltd., and S. O. Cowper-Coles. 22,621. October 14.
Automatically Controlling Outflow of Gas from a Container. Michelin et Cie. (Société en Commandit pas Actions.) 22,630. October 14.
Smoke-consuming Furnaces. A. Gronberg. 22,642. October 14.
Rectifying Mixtures of Glyceride of Physetoilacid, etc. Count H. Holstein and Einar Petersen. 22,658. October 14.
Gas Producers. E. Hall-Brown. 22,682. October 15.
Synthetic Camphor. B. G. Clark. 22,699. October 15.
Recovery Filters. M. Lamort. 22,732. October 15.
Dyestuffs of the Phthalein Series. P. A. Newton. 22,818. October 16.
Gas Producers. E. Hall-Brown. 22,881. October 17.
Re-purifying Lime. R. Middleton. 22,894. October 17.
Recording Apparatus for Percentage of Carbonic and Other Gases in Gas Mixtures. T. Thorp. 22,896. October 17.
Carbonating Liquids. R. W. Webster, Levig Chew, and H. J. West and Co, Ltd. 22,932. October 17.
Hydrazine. T. Raschig. 22,957. October 17.
Sulphurised Dyestuffs. A. G. Bloxam (Act. Ges. für Anilin Fabrikation). 22,967. October 17.
Sodium Cyanide. J. Scherniac. 22,968. October 17.
Gas Producers. E. Hall-Brown. 22,989. October 18.
New Azo Dyestuffs. P. A. Newton. 23,026. October 18.
Gelatine. W. H. Perkin and Whipp Bros. and Todd, Ltd. 23,031. October 18.
Crushing Machines. L. T. Dieudonné. 23,039. October 18.
Combined Scrubber and Cooler for Producer Gas. E. Hall-Brown. 23,078. October 19.
Gas Scrubbing or Filtering Apparatus for Gas Producer Plants. W. Stirling. 23,089. October 19.
Kiln or Furnace for Coking Peat, Lignite, and Wood. Oberbayerische Kokswerke-und-Fabrik Chemischer Produkte Akt. Ges 23,097. October 19.
Regulating Flow of Gases and Liquids Through Pipes. R. Howard. 23,103. October 19.
Respiration or Life-saving Apparatus. W. E. Garforth. 23,111. Oct. 19.
Gunpowder. G. H. Wadsworth. 23,112. October 19.
Purifying Electrolytes. S. O. Cowper-Coles. 23,145. October 19.
Extracting Fats, Oils, etc. E. Berliner. 23,146. October 19.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Fertilisers, Filtering Materials, etc. Brightmore. 15,922.
Artificial Stone. Crotch. 22,901.
Generating Oxygen. Sarason and Haller. 23,165A.

1907.

Obtaining Pure Copper. Jumau. 530.
a-Oxythio-naphthenes. Imray (Farbwerke vorm. Meister, Lucius, and Brüning). 1,592.
Extracting from a Liquid Gases Dissolved therein. Kestner. 1,843.
Colouring Matters of the Anthracene Series. Johnson (Badische Anilin and Soda Fabrik.). 4,235.
Lead Chambers for Sulphuric Acid Manufacture. Fromont. 4,861.
Freeing Gases from Solid or Liquid Particles. Sepulchre. 13,510.
Lining for Grinding Mill. Brown. 17,983.
Electric Furnaces. Pauling. 18,900.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Manufacture of Explosives. G. Cornaro, Via San Quintino, Turin, Italy. British Patent, 9,170. Date claimed under International Convention, April 21, 1906.

The inventor has ascertained, by means of experiments, that several common metals have, under certain physical conditions, the property of becoming oxidised with so much violence, and with the development of so much thermal energy, that they constitute explosives of great power. The physical state required for this purpose is that of very fine division, obtained by means of mechanical pulverisation, or preferably by the electrolysis of the oxides or salts of the metals. He has also ascertained that very much greater explosive force is obtained by using a mixture of different metals than by using the metals singly, if the mixture is an intimate one and consists of suitable proportions of two or more metals which begin to oxidise at different temperatures, and the successively formed oxygen compounds of which develop, during their formation, increasing quantities of heat, so that the oxidation of one of them induces, by the heat developed, the more rapid and complete oxidation of the other metal or metals, of which the oxidation takes place at a higher temperature.

It is claimed that this process allows of obtaining explosive forces considerably greater than those obtained by means of the most powerful nitrogen-compounds. Aluminium and antimony used singly constitute powerful explosives when mixed with an oxide or highly oxidised salt which is stable at ordinary temperatures, but is adapted, when its temperature is raised by ignition, to yield the oxygen required for the combustion of the metal, as, for example, manganese dioxide, chlorates, and nitrates. If, however, aluminium and antimony are mixed with each other in suitable proportions, together with a suitable quantity of oxide or highly oxidised salt, the oxidation of one of the metals develops heat by which the oxidation of the other metal is caused to take place with more completeness and with the development of a greater amount of heat, and consequently of explosive force. During the first phase of the explosion there is produced oxide of antimony Sb_2O_3, the heat of formation of which assists and accelerates the formation of aluminium oxide Al_2O_3. The heat of formation of the latter, added to that of the antimony oxide, raises the temperature to the temperature at which antimonious anhydride Sb_2O_5 is formed, and this compound in turn raises the temperature to that at which a peroxide of aluminium is formed, which may be the hitherto unobtainable anhydride Al_2O_5. The patentee observes that the unknown heat of molecular constitution of this peroxide must be exceedingly great, since the explosive produced in the manner described explodes with a force approximately nine times as great as that of the best black powder—that is to say, twice as great as that of the most powerful nitrogen compounds known. This high explosive force cannot be due to the heat of formation of the aluminium oxide and antimonious anhydride, and can only be explained by assuming the formation of aluminium anhydride, with the enormous development of heat due thereto.

It is necessary that the explosion of an explosive of this nature should take place in a projectile, mine, torpedo, or the like, to prevent the expansion and cooling of the gases in course of formation. If the metallic explosives manufactured by the process described are formed with nitrate of potash, explosion does not take place below a temperature of approximately 300° Centigrade, and is not readily produced by the action of impact or friction.

By altering the proportions of the metals mixed with each other, different explosive forces are obtained, according to the purpose for which the explosive is required. At the very high temperatures of explosion the oxides and metallic anhydrides are gaseous, but immediately after the explosion and consequent expansion and cooling of the gases, the latter rapidly become condensed and solidified, but remain in a state of fine division, so that they remain suspended in the atmosphere and form a thick and slowly dispersing smoke, visible at a considerable distance.

Improvements in Power Gas Producers. Mason's Gas Power Co., Ltd., of Alma Works, Levenshulme, Manchester, A. Hollis, 24, Beech Range, Levenshulme, and T. Wright, 39, Cringle-road, Levenshulme. British Patent, 20,484. September 15, 1906.

In certain known constructions of power gas producers (usually of rectangular formation) it is customary to provide them with inner depending walls reaching down to a point below the level of the fuel, and providing passages for the escape of the gas. The objections to this construction are, first, that at those points of the furnace immediately below the inner walls, the fuel is inaccessible for pokering; secondly, that, unless great care is taken, the poker is liable to break or damage the lower edges of the walls; and thirdly, a large portion of the interior of the producer is not used to the best advantage.

The present invention has for its object to provide a gas producer (preferably of circular formation) in which the inner walls are dispensed with, and in which the passage for the gas is exterior (instead of interior) to the producer, thus leaving the interior plain and accessible at all points for pokering, as

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well as enabling the producer to be used to the fullest advantage. The invention also has for its object to provide a producer in which the gas will pass into the gas outlet through a series of openings extending all round the producer, and in which any vapour or unfixed gas will have of necessity to pass through the burning fuel before it can reach the openings. The original specification should be consulted.

Improvements in the Manufacture of Producer Gas and in Generators therefor. J. E. Dowson, of 39, Victoria Street, Westminster, London. British Patent, 21,258. September 25th, 1906.

The objects of this invention are to facilitate the production of gas, and to prevent an accumulation of troublesome lime and other deposits in the gas generator. The type of gas generator used is that in which steam and air are employed to make combustible gas suitable for heating purposes or for working gas engines. The gas generator can be of the suction or pressure type. For producing gas of this kind it is usual to have a vaporiser in the gas generator to produce the steam required, or to have steam from a vaporiser outside the generator, or from an independent boiler. In the present invention the vaporiser or boiler is dispensed with entirely, and atomised water (by which term I imply water in a very fine state of division) accompanied by a small proportion of the air used for the purpose of combustion is passed directly into the fire in the gas generator, and the water is there converted into steam and afterwards decomposed. When the gas plant is used in conjunction with a gas engine, some of the burnt gas from the cylinder or exhaust of the latter may be used instead of a portion of the air before mentioned. The original specification should be consulted.

Improved Process for the Manufacture of Hydrocyanic Acid and its Salts R. S. Hutton, of the University of Manchester and E. W. Smith, Ivy House, Mottram, Cheshire. British Patent, 23,835. October 26, 1906

The inventor claims :—A process for the production of hydrocyanic acid, which consists in passing a current of a mixture of gases containing hydrogen and nitrogen over the surface or through a mass of carbon maintained at a temperature of at least 1700° C., but considerably below the temperature of the positive crater of the electric arc, the hydrocyanic acid thus produced being subsequently absorbed or utilised according to any of its known reactions, and the residual or uncombined gases being utilised, if desired, by being brought again into contact with the heated carbon, or for other purposes.

An Improved Method or Process of Producing Pure Hydrogen. Dr. A Frank, 26, Berlinerstrasse, Charlottenburg, Germany. British Patent, 26,808 Novemb er 26, 1906.

The present invention has for its object a method of producing pure hydrogen from water-gas.

Water-gas obtained on a large scale contains a quantity of hydrogen and carbon monoxide, besides some carbonic acid and nitrogen, and small quantities of heavy and saturated hydrocarbons. In processes heretofore known the carbonic acid has been removed from water-gas by absorbing the carbonic acid by passing the gases through, for example, water, lime, carbonate of soda, or acetate of lead. In other processes, the carbon monoxide is absorbed by a cuprous chloride solution which can be regenerated by subjecting it to a vacuum with recovery of carbon monoxide. According to the present invention the compounds which are present in water-gas in addition to hydrogen are absorbed in one or two operations following one after another, with the result that almost chemically pure hydrogen is obtained as the final product.

For this purpose, water-gas which is previously dried as much as possible is conducted over calcium carbide, at a temperature of over 300° C. The calcium carbide may be pure or be mixed with other carbides, or with inert materials (such as carbonates, halogenides and sulphates), which promote the absorption, or with such as reduce the temperature of absorption. When water-gas is conducted over carbide thus heated, absorption of all the gases intermixed with the hydrogen takes place. Carbon monoxide and carbonic acid, in reacting with the carbide, form lime and carbonate of lime and carbon. The nitrogen is likewise absorbed. The heavy or saturated hydrocarbons are decomposed with the separation of carbon when passed over the heated material containing lime and carbon. Almost chemically pure hydrogen is ultimately obtained as the final product.

In a modification of the process, carbonic acid and carbon monoxide are previously entirely or partially removed from the water-gas by means of suitable absorption media, such as lime or cuprous chloride solution (acid, neutral or alkaline), in order to relieve the carbide, and thus a mixture which is rich in hydrogen is in the first place produced, and is afterwards submitted to the action of carbide in the manner above described.

When working in this manner, the regeneration of the cuprous chloride solution can be effected by this being subjected, after saturation with carbon monoxide, to the action of a vacuum. In this manner, the carbon monoxide dissolved in the cuprous chloride solution is removed from the same at ordinary temperatures, and may be obtained separately in a pure condition, whereas the cuprous chloride solution can be used again in the process.

Improvements in and relating to Crushing Machines. T. L. Sturtevant and T. J. Sturtevant, both of Harrison-square, Boston, Mass, and the Sturtevant Mill Co., Boston, Mass., U.S.A. British Patent 13,192. June 6, 1907.

The inventor claims :—(1.) A rocking-jaw crushing-machine, the frame of which comprises relatively thin side-plates, with or without an intermediate plate or plates, and a rear cross-beam provided with flanges by which it is bolted to said plates, and in which rear cross-beam the driving shaft for operating the rocking-jaw or jaws is journalled, so that the said rear cross-beam, instead of the said plates, will directly receive the strain of the said shaft. (2.) A rocking-jaw crushing-machine, the frame of which comprises relatively thin side-plates, with or without an intermediate plate or plates, and a rear cross-beam overhanging said side plates and provided with flanges by which it is bolted to said plates, and in which rear cross-beam the driving shaft for operating the rocking-jaw or jaws is journalled, so that the said rear cross-beam, instead of the said plates, will directly receive the strain of the said shaft. (3.) A crushing-machine frame consisting of relatively thin side-plates and an intermediate plate or plates, a sectional head-block or front cross-beam rigidly attached to said plates, and a sectional rear cross-beam having flanges arranged within said side-plates and firmly bolted thereto and to said intermediate plate or plates so as to brace the said plates, the crushing-machine comprising a driving shaft, the bearings of which are supported by said rear cross-beam, and rocking-jaws operated from said driving shaft.

Method of Producing Oxide of Nitrogen by Means of Explosions. Dr. F. Hausser, 38, Mozartstrasse, Kaiserslautern, Bavaria. British Patent No. 13,989. June 17, 1907.

The present invention relates to the production of oxides of nitrogen and particularly to the process of producing oxides of nitrogen described in Letters Patent No. 12,401, of 1906. According to that process the gases expand and drive the piston forward, thus performing work ; and are so considerably cooled that they can no longer be used, say, for concentrating the obtained nitric acid or nitric salts. Many experiments have been made with gas motors to devise means for further utilising the exhaust gases for heating purposes, but without any practical success, as these gases after having been exhausted are no longer hot enough. It is, however, advantageous when producing nitric acid to utilise the generated heat for concentrating the acid or the nitric salts. This may be attained by allowing the gases to exhaust directly after the explosion, foregoing the gain of their work, through the outlet valve, whereby they keep hot enough for concentration purposes. Immediately after the exhaust the engine draws in again further mixture, therefore working on the two-stroke cycle so that one explosion occurs with each crank revolution. This process, however, would result in a rapid wearing away of the outlet valve, as with each revolution of the engine the outlet valve would be exposed to the action of the highly heated high pressure exhaust gases. This disadvantage is overcome, if the engine, which works then as a simple compressor, conveys the explosive gaseous mixture into an explosion vessel or " shell," which is made so large that the desired compression pressure is only attained after several crank revolutions of the compressor. The number of explosions may thereby be much smaller than the number of revolutions of the compressor, so that the outlet valve of the " shell," or explosion vessel, need not be opened so frequently, and is thereby spared ,while the outlet valve of the compressor has only to stand the temperature of compression.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Oct. 30.
120,000	1	1	Bell's Asbestos ... ord	2 3/32
	Stock	100	Bo. ax Consol 4½% deb. stock red	110
80,000	10	10	Do. 5½% cum. pref.	10⅞
1,356,477	1	1	Bradford Dyers ... ord.	23/4½
1,50?,000	1	1	Do. ... 5% c.p.	21/1½
35,000	10	10	British Dyewood ... ,,	70/-
600,000	1	1	British Oil & Cake Mills ord.	12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	40/6
10,000	10	10	Do. ... 6% c.p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	5⅜ 5 7/16
82,678	10	10	Do. 7% pref.	16¼ 16½
96,000	5	5	Bryant and May ... c.p.	12⅜
40.000	10	10	Buxton Lime Firms ord.	6 1/16 6 5/16
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	20/6
450,000	1	1	Castner Kellner ... ,,	25/9
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¼ 4
6,000	10	5	Cleveland Salt ... 6% m.p.	2½ 3
20,000	10	10	Crosfield J., and Sons c.p.	10 10¼
85,000	1	1	Fletcher, Russell, & Co. ord.	28/- 28/6
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	93½
50,000	10	10	India Rubber Co. ... ,,	15
	5	5	Lagunas Nitrate ... ,,	3 3¼
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11½ 12
200,000	10	10	Lever Bros. ... 5% c.p.	10⅞
400,000	10	10	Manchester Ship Canal ord.	20/-
400,000	10	10	Do. per 5% pref.	30/-
120,000	1	1	Mandelberg ... ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	3
134,694	10	10	Nitrate Railways ... ,,	10¼ 10¼
228,540	10	10	Nobel Dynamite Trust ,,	16
	10	10	Do. share warrants	16⅛
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	37/9
	1		Pears, A. and F. ... ,,	31/3
70,000	10	10	Pease and Partners ... ,,	11¼ 12
37,500	16	16	Price's Patent Candle ,,	33
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	13½
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	69½
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
239,479	1	14/2	Sadler and Co. ... ord	4/-
200,000	4	4	Salt Union ... ... ,,	15/- 15/6
100,000	6	6	Do. ... 7% n.c.p.	4 4¼
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	⅝ ⅞
	1	1	Schibaieff Petroleum ,,	⅛ ¼
£6,250,000	Stock	100	South Metropolitan Gas ,,	120
45,000	10	10	Steiner, F. and Co. 5% c.p.	9 9½
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6⅛
289,343	10	10	United Alkali ... ord.	72/3
282,524	10	10	Do. ... 7% pref.	11 1/16 11 3/16
80,000	1	1	United Indigo & Chemical ord.	2/3 2/9
66,665	5	5	Willans and Robinson ,,	1 1/16 1 1/8
210,000	1	1	Wool combers ... 7% c.p.	19/- 19/6
113,202	4	4	Young's Paraffin ... ord.	69/6

Gold Bearing Ores in the United Kingdom.—The reported discoveries of gold-bearing conglomerates in the Wye Valley are interesting, but whether they will "pay out" is a question. Articles have appeared recently in this *Journal* as to the Chaston Gold Syndicate discoveries, the writer questioning the statements as to the age and form of deposition. The Wye Valley Syndicate state the conglomerate as the source of deposition, or it may be assumed that the ore is found (not visible) in the drift and gravel. In both ice ages gold has been found in the "drift," but not in payable quantities within the United Kingdom. It, however, does not by any means follow that with approved appliances the conglomerates and gravels hitherto disregarded may yield payable gold, and in the neighbourhood of "contact" veins, it is at least not unreasonable, in the Wye Valley, to expect to find gold in the reef, and also in the conglomerate and gravel.

Reports of Companies.

ELECTROLYTIC ALKALI CO., LTD.

The report for the year to August 31 states that the net profit, after allowing for depreciation, mortgage debenture interest, and expenditure on renewals, repairs and general upkeep of buildings, plant, machinery, tools, etc., is £8,212., to which is to be added the amount brought forward from last year, namely, £2,127., making a total of £10,339. The directors regret that the hope expressed in the last annual report, that further developments during the ensuing year would show better results, has not been realised. They observe that it will be obvious to all who are familiar with manufacturing operations that the causes of this result have been entirely beyond the control of the board, the further increase during the year in the price of fuel, packages and other commodities which form the chief items of cost of the company's manufactures being mainly responsible for the decreased profit. Notwithstanding the result now shown, the directors have the fullest confidence that, when normal prices have been re-established, the company will be able to make a satisfactory return to all the shareholders. Two and a half years' dividend on the preference capital has now accrued, but, in view of the unsettled state in that portion of the chemical trade in which the company is engaged, the directors think the wisest course is to pay only one half-year's dividend upon such shares, which will absorb £3,498., leaving a balance of £6,840. to be carried forward to the next account, and they recommend that this be done.

DIVIDENDS.

Alianza Co., Ltd.—An interim dividend of 7%, free of income-tax, will be paid on November 4 next.

Anglo-Chilian Nitrate and Railway Co.—The directors have resolved to pay interim dividends on account of the year 1907 of 5s. per £5. preference share and 5s. per £5. ordinary share, both free of income-tax.

Books Received.

Steel Works Analysis. By J. O. Arnold and F. Ibbotson. Third edition, thoroughly revised and enlarged. Pp. 462. London: Whittaker and Co. 10s. 6d. net.

The Metric and British Systems of Weights, Measures, and Coinage. By F. Mollwo Perkin, Ph.D. Pp. 83, with 17 diagrams. London: Whittaker and Co. 1s. 6d. net.

The Bank Rate.—On Thursday last the Bank Rate was advanced to 5%, having been 4% since August 15.

Bank Amalgamation.—The amalgamation of the Lancaster Banking Company, Ltd., and the Manchester and Liverpool District Banking Company, Ltd., is announced.

Official Chemical Appointments.—The second edition of the "List of Official Chemical Appointments" is now in course of preparation with a view to publication early in 1908. Fellows and Associates of the Institute of Chemistry, particularly those who hold official positions, are reminded that suggestions which may increase the usefulness of the list will be welcomed and carefully considered. All communications should be addressed to the Registrar, Institute of Chemistry, 30, Bloomsbury-square, London, W.C.

Guano Concessions in Mexico.—A notice recently appeared in the *Board of Trade Journal* respecting the granting of a concession for the exploitation of guano upon certain islands in the Gulf of Mexico. The Mexican *Diario Oficial* of September 21 published the text of a further concession granted by the Mexican Government to Mr. Aurelio Cadena y Marin for the exploitation of the guano deposits on the Islands of Aguada or Puerto Real, Cayo Chelem, Sabanquy, Holbox, Sisal, Xamachtun, Tecchal, Temalcab, and Triàngulos y Blanca in the Gulf of Mexico. The contract is for a period of ten years, reckoning from the date of publication, and the Concessionaire engages to pay to the Mexican Government the sum of 75 cents for each ton of guano extracted, as well as the export duties. The *Diario* of October 7 contains a copy of a contract made with Mr. Harry J. Earle for exploiting guano in the islands of Contoy, Cancun, Cayo Arenas, Chinchorro and Alacranes, off the East coast of Yucatan.

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Correspondence.

**** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

RETORT CARBON.

(To the Editor of the Chemical Trade Journal.)

Sir,—As subscribers to your *Journal* we should be glad if you or any of your readers could give us any information on the following subject, through your correspondence column.

We wish to find out the best means of getting in touch with the Continental buyers of retort carbon for electrical purposes.—Yours, etc., A.A.

WOOD ALCOHOL.

(To the Editor of the Chemical Trade Journal.)

Sir,—If you or your readers could supply the following information through the *Chemical Trade Journal* we should feel greatly obliged :—

(1.) The quantity of wood alcohol produced in the United States yearly.

(2.) The quantity used for denaturing alcohol in the United States yearly.

(3.) The present market price of wood alcohol in the United States.

When the present price of wood alcohol in this country is only 1s. 10d. per imperial gallon it seems remarkable that the United States can ship such large quantities and sell it at such a low price. What is the explanation ?—Yours, etc.,

P.C.L.

NEW YORK PRICES CURRENT.

Oct. 15, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 8
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	0 7
„ „ „ Continental	„	0 7
Ammonia, Carbonate, lump	„	0 7¾
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9¼
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 5½
Potassium, Bichromate	„	0 8⅝
„ Carbonate, 90%	„	0 4¾
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4¾
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8¾
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 85
„ Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, October 15, 1907.

(Rate of Exchange, $4.86 = £1.)

Nitrate of soda is steady but dull, at $2.40. to $2.45. per 100 lbs., for spot shipments. Sulphate of ammonia is slow of sale, at $3.5. per 100 lbs. Grey muriate is in somewhat less demand, at 6c. to 6¼c. per lb., as to make. White muriate for galvanising purposes is depressed, owing to large stocks, and is offered at 5⅝c. to 6c. per lb. Lump carbonate of ammonia is steady at 7⅛c. to 8c. per lb., and powdered nominally 1c. per lb. higher. Lump sal ammoniac is unchanged at 9¼c. per lb. Bleaching powders are moving on contract as usual at $1.20 to $1.30. as to make. Alkali is unchanged, at 92½c. per 100 lbs. for light 58%, in bags, f.o.r. makers works; and caustic soda, 74%, is $2.05. per 100 lbs. Sulphate of copper has been reduced by the syndicate to 5½c. per lb., which price might be shaded a trifle. White powdered arsenic is very dull, and is easy at 6⅞c. per lb., while red Saxony arsenic is firm at 7½c. per lb. Carbonate of potash, calcined 80-85%, is 3¾c. per lb., and hydrated 4¼c. per lb. Caustic potash, 75%, 4½c. per lb. Chlorate soda 8¼c. per lb., and potash 8¼c. per lb. for crystals and 9c. per lb. for powdered, f.o.r., maker's works. Prussiate of soda is 9¼c. per lb., and potash dull at 16¾c. per lb. Bichromate of soda is 7¼c. per lb., and potash 7⅞c. per lb., both under syndicate control. Antimony products are again down, and oxide is freely offered at 11c. per lb. Oxalic acid is somewhat weaker, and spot lots have changed hands at 8c. per lb., while a little less could probably be done for shipments.

THE RUSSIAN CHEMICAL MARKETS.

The Warsaw chemical report of October 17 speaks of an uneventful market for the preceding fortnight. The prices for heavy chemicals were as follows :—Nitric acid, 36° B., 3 roubles 50 copecks ; borax crystals, 4r. 90c. ; white lead, 5r. 80c. ; wood spirit, 95-96%, 10r. 50c. ; chloride of lime, 1r. 50c. ; sulphate of copper, 7r. 35c. ; salammoniac (lump), 9r. 25c. ; potash (Saratoff), 3r. 15c. ; Chili saltpetre, 2r. 18c. ; Russian turpentine, 4r. 25c. ; ammonia soda, 1r. 50c. ; caustic soda, 3r. 20c. ; commercial muriatic acid, 76c. ; superphosphate, 12-13%, 52c. ; red lead, 5r. 90c. ; sulphuric acid, 66° B., 1r. 2c.

Odessa reports dated October 23 continue to speak of considerable dealings in disinfectants, in view of the spread of the cholera epidemic. In other directions, however, business is quiet, though prices remain firm. Ammonia in casks is quoted 7 roubles 20 copecks ; white lead, 6r. to 6r. 10c. ; glycerine, 11r. 50c. ; wood spirit, 96°, 7r. 10c. ; chloride of lime, 1r. 80-95c. ; yellow potash, 14r. 50c. to 15r. 25c. ; sulphate of copper, 6r. 50-70c. ; salammoniac, 8r. 10c. ; Caucasian potash, 2r. 50-55c. ; Chili saltpetre, 2r. 10-15c. ; caustic soda, 2r. 75c. ; calcined soda, 1r. 40c. ; muriatic acid (commercial), 1r. 5c. ; lemon salt, 41r. 50c. to 42r. ; Russian turpentine, 3r. 25c. ; bichromate of potash, 9r. ; ether, 8r. 50-75c. All per pood of 36lbs.

TAR AND AMMONIA PRODUCTS.

Friday.

Benzols quiet, with quotations given at 8¾d. to 9d. for 90's, and 9d. for 50-90's, casks included. Crude tar, 15s. to 19s. per ton, Thames ; 1⅞d. per gallon delivered. Refined tar, 12s. per barrel ; Gas Company, 12s. 6d. Pitch, 24s. 3d. to 24s. 9d., f.o.b. ; Gas Company, 26s. 6d. ; East Coast, 24s. to 24s. 6d. ; West Coast, 23s. to 24s. Refined naphthalene, £8. 10s. to £8. 10s., packages included. Toluol, 90%, 10d. to 10½d. ; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 5d. to 1s. 5½d. ; 60%, 1s. 7¾d. to 1s. 8d. ; 75%, 1s. 11¾d., casks included. Crystals 39-40, 5¼d. ; 34-35, 4⅞d. to 5d. Cresylic, 95%, 1s. 1d. to 1s. 1¼d. Anthracene, 40 to 45 per cent A, 1¾d., casks included. Pyridin, 4s. to 4s. 3d. Sulphate of ammonia firm, and with a good tone reported. Nearest values are :—Beckton, October-December, £12. 5s. ; January-April, £12. 7s. 6d. ; Beckton terms, £12. ; London, £11. 17s. 6d. ; Hull, £11. 18s. 9d. ; Liverpool, £12. ; Manchester, £11. 17s. 6d. ; and Leith, £12. 5s. ; forward, £12. 7s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d. ; Liverpool, ordinary, 11s. 2½d., and refined, 11s. 3d. Official quotations :—Cargoes, off coast or due, 10s. 10½d. ; ditto for prompt shipment, 11s. 2d.

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THE LONDON METAL MARKETS.

THURSDAY.

Copper: Standard brands, £62. 12s. 6d. to £62. 17s. 6d. cash, and £62. to £62. 5s. three months. Tin: G.M. quality, £145. to £145. 10s. cash, and £146. 5s. to £146. 15s. three months; English, £147. Lead: Soft foreign, October, £18. 5s.; November, £18. 2s. 6d.; January, £17. 15s.; English, £18. 10s. to £18. 15s. Spelter: Ordinary brands, November, £22.; January, £21. 17s. 6d., ex ship; hard, £18. 10s. to £19., f.o.b. Antimony, £41. to £43.; ore, £13. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Pig-iron closing prices: Cleveland, 53s. cash; 52s. 3d. one month; 51s. three months.

FERTILISER MATERIALS.

THURSDAY.

Demand has been sustained throughout the week for ammoniacal material, and prices have slightly advanced.

Nitrate of soda remains steady on spot, at 11s. 3d. per cwt., for 95%, and 11s. 6d. per cwt. for refined quality, ex store.

East Indian bone meal, for shipment, is rather neglected. Nearest quotation is £4. 17s. 6d. per ton, nett, c.i.f. terms Liverpool, 4½ and 52% quality. On spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is required.

Mineral phosphates of all grades still maintain a strong position.

MISCELLANEOUS CHEMICAL MARKET.

FRIDAY.

The demand for heavy chemicals is fairly satisfactory, both for home and export, and values all round are well maintained. Caustic soda is firm at the recent advance. Bleaching powder, softwoods, is steady on the spot, at £4. 7s. 6d., free on rails; for 1908 contracts, £4., f.o.r., is still quoted. Soda crystals dearer, at 57s. on rails, makers' works. Ammonia alkali and bicarbonate of soda are unaltered. Recovered sulphur, £4. 12s. 6d., f.o.r. Some small contracts for saltcake have beeen concluded for next year at the advanced price of 42s. 6d., but, generally, demand is not very brisk. Quotations for sulphate of copper are rather unsettled for forward delivery, owing to the fluctuations of the metal market; prompt price is £24. per ton, f.o.b. Liverpool. White powdered arsenic is rather quiet just now, and prices are easier at £29. 10s. to £30. per ton. Prussiates have an upward tendency, potash now being quoted at 6d. per lb., and soda 3¾d. per lb. Quotations for potash, caustic and carbonate, are still at a high level owing to short supplies. Lead salts are a turn weaker; foreign white, at £31., ex ship; brown, £26. per ton. Crude glycerine is scarce and dear. Crystal carbolic acid dull, at 5¼d. for 39-40; crude, 60's, 1s. 8d. per gallon. Oxalic acid firm, at 3¾d., both for spot and early delivery. Nitrate of soda steady, at £11. 5s. to £11. 10s., f.o.r. Liverpool.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil quiet, sales including Niger at £27. 5s., Hard oils at £27. 10s., Cameroon at £28. 5s., and soft oils at £28. 10s. to £28. 12s. 6d., with Lagos at £31. 10s. per ton, all in transit. Linseed oil quieter, at 26s. 6d. to 27s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed oil steady, at 27s. to 28s. per cwt. for Liverpool refined in export barrels. Tallow quiet. Turpentine at 38s. 6d. per cwt. for spot parcels. Petroleum firm, at 7d. for Russian and Roumanian, and 7½d. to 8¼d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0¾d. to 1s. 3d. per gallon.

COLOURS.—Red lead, English, £21. 10s., white, £22. 10s. to £22. 15s.; emerald green, 1s. per lb.; Brunswick green, 16s. to 45s. per ton; venetian red, lump, 7s. 6d., powder, 5s. to 6s. 6d. per cwt.; vermilion, English, 2s. 4d., China, 3s. per lb.; Prussian blue, 1s. 10d. to 2s. 6d. per lb., Brunswick, 28s. to 34s. per cwt.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes quietly firm at 36s. per cwt. Logwood steady. Cutch also steady. Gum copal: A brisk demand is reported for Sierra Leone; Gold Coast sold at auction, 55s. to 56s. 6d. per cwt. Castor oil firm but quiet, at 3½d. for good seconds Calcutta on spot, and Nov.-Dec. shipment at 3¾d., French 3¾d. for first pressure, and 3½d. for second pressure. Gambier: Block, 23s. to 23s. 6d. per cwt. for spot parcels; October-November shipment well held at 21s. to 21s. 6d. Cubes, 30s. per cwt., on spot, and 28s. 3d. per cwt. for November-December shipment. Shellac: market depressed and quotations given, 140s. for fair TN orange, on spot. Glucose firm: American liquid, 43%, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 1½d., and for October-December, 9s. 7½d., c.i.f., for shipment. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 88s.; 95%, 86s. Tartaric acid: English, 11¼d. on spot, and foreign, 11d. Citric acid: English, 1s. 9d.; foreign, 1s. 9d.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OILS.—Values of seed oils during the week have been unsteady; in the main prices are higher than a week ago, but lower than previously. Amongst the principal imports here to date, as against the same period a year ago, have been:—Wheat, 3,440,984 qrs., against 3,232,128 qrs.; flour, 175,998 cwts., against 288,093 cwts.; linseed, 668,284 qrs., against 487,828 qrs.; rapeseed, 99,771 qrs., against 100,682 qrs.; cottonseed, Egyptian, 136,183 tons, against 120,927 tons; other kinds, 148,989 tons, against 105,958 tons; oilcake, 21,187 tons, against 32,906 tons; hemp, 109,407 cwts., against 137,690 cwts.; olive oil, 3,678 tuns, against 3,358 tuns; tar, 13,079 brls., against 11,042 brls. Amongst the weekly imports are:—Margarine, 2,854 cwts.; lard, 3,419 cwts.; sugar, 8,801 cwts.; glucose, 1,084 cwts.; hides, 4,103 cwts.; hemp, 6,244 cwts. colours, 2,200 pkgs.; oilcake, 970 tons; wool, 143,024 lbs. Exports:—Oil, 10,101 cwts.; colours, 2,796 pkgs.; chemicals, 1,874 pkgs.; Linseed oil, spot, naked, 24s. 4½d.; November-December, 23s. 10½d.; January-April, 23s.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week have £1. to £1. 10s. per ton extra. Exports during the week:—6 tons America, 5 Germany, 1 Holland, 6 Norway, 2 Turkey; total, 20 tons. Refined cotton oil, 23s. 3d., spot, naked; November-April, 23s. 6d.; casks £1., and barrels £1. 7s. 6d. per ton extra. Exports:—2 tons Denmark, 5 France, 34 Germany, 35 Holland, 4 Norway, 9 Turkey; total, 89 tons. Rape oil, Jamba, 34s. 6d., spot. Turpentine, 38s. 3d. Russian ditto, 20s. 9d. Olive oil unchanged. Resin, 11s. upwards. Castor oil unchanged. Linseed and cottonseeds, like oil, have advanced, but have relapsed, closing a little higher than prices recorded a week ago. The crop reports from Argentine continue very favourable for linseed and heavy crops are anticipated.

CAKES.—Linseed cakes very firm, but sales small. Cotton cakes, best makes, 2s. 6d. per ton lower, spot; November, 2s. 6d. dearer; December-April, unchanged. Bombay very firm, tendency dearer.

TYNE CHEMICAL REPORT.

WEDNESDAY.

Chemicals are unchanged and in fair demand. Caustic soda 70%, £10. 5s.; and 76-77%, £11. per ton. Soda crystals locally steady at £3. to £3. 2s. 6d. per ton gross weight. Bleaching powder firm at £5. to £5. 5s. per ton. Sulphur scarce and steady at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

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COALS.—Market is, if anything, a shade steadier for steam and gas coals, but bunker, coking coals, and coke are all quiet and plentifully offered. For prompt shipment, quotations may be reported as follows:—Best Northumbrian steam, 15s. to 15s. 3d. per ton; second qualities, 14s. to 14s. 6d. per ton; small coals, 10s. 6d. to 11s. per ton; Northumberland unscreened, 12s. per ton; best gas coals, 15s. to 15s. 6d. per ton; Durham bunker coals, 12s. 6d. to 13s. per ton; coking coals, 14s. per ton; household coals, 10s. 6d. to 17s. per ton; foundry coke, 22s. per ton; gas coke, 19s. to 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Thursday.

The ordinary market (heavy chemicals) continues to show a fair current of business, at values well upheld. Bleaching powder and caustic soda particularly share in the movement going on, and forward (next year's) bookings still figure on the reports. Sulphate of ammonia, prompt business, Leith and Glasgow deliveries, still retains the improved position of the last two weeks; but forward dealing continues unrepresented. The Scottish calico printing works have rather fallen off in activity again; some are reduced, indeed, to only four working days a week, but the market in colour chemicals and drysalteries continues firm, with the old values maintained. In the section of home manufactured mineral oils and paraffins, the feeling is as before, satisfactory from the makers' point of view, and with a good daily bulk of business. English and Irish sales of burning oil now command a farthing per gallon over the contract figures as given below.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 4½d.; paraffin scale, hard, 2d. to 2⅛d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £5. 15s. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 5⅞d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £22. less 5% Liverpool, prompt.

New Companies.

Gamnes Copper Co., Ltd.—Capital £25,000., in £1. shares. This company has been formed to acquire and turn to account certain mining claims and rights on Gamnes Farm, and other rights and properties on the Island of Ringvatso, Karlso, District of Tromso, Norway, and to carry on the business of copper and general miners, prospectors, explorers, metallurgists, etc. No initial public issue. The first directors are J. G. Gordon and L. G. Mortimer (nominated by J. G. Gordon, L. G. Mortimer and G. H. Palmer, known as the Syndicate), C. E. Ingersoll and C. Tazewell (nominated by G. E. Hanssen, C. E. Ingersoll, E. R. Melluish, W. Blackmore, A. Howard and C. Tazewell, the vendors). One of the nominees of the syndicate is to be chairman; qualification 250 shares. Registered office, 1, Gresham House, Old Broad-street, E.C.

Tallow Syndicate, Ltd.—Capital £5,000., in 4,000 A shares of £1. each and 20,000 B shares of 1s. each. This company has been formed to acquire and turn to account any interests in inventions or processes relating to the extraction of an odourless product from train fish or other oils, and to adopt an agreement with E. O. Daniell. No initial public issue. E. O. Daniell is the first director. Registered office, Basing House, Basinghall-street, E.C.

Veredas Lead Mining Co., Ltd.—Capital £50,000., in £1. shares. This company has been formed to acquire the lead mines known as Tres Amigos, Santa Margarita, and Santa Teresa, and other adjoining mines in the province of Cindad Real, Spain. No initial public issue. The first directors are G. Gougoltz, J. Lecarme and J. A. Burton. Qualification £200. Remuneration £200. each per annum. Registered office, 6, Laurence Pountney Hill, E.C.

Lead Wool Co., Ltd.—Capital £8,000., in £1. shares. This company has been formed to take over the business of lead wool manufacturers carried on by H. Packham, B. T. L. Thomson and F. L. Bull, at Snodland, Kent, as the Lead Wool Co., together with the licences for the United Kingdom and British Colonies granted to the said proprietors, assignments of patent rights relating to improvements in metallic packing, and an assignment of leasehold premises at Snodland. No initial public issue. The subscribers are to appoint the first directors. Qualification £500. Registered office, Lead Wool Works, Church Fields, Snodland, Kent.

Crescent Wolfram Estates, Ltd.—Capital £100,000., in 99,000 ordinary shares of £1. each and 20,000 deferred shares of 1s. each. This company has been formed to acquire the benefit of certain agreements for the purchase of metalliferous land in the South Boulder Mining District, Boulder County, Colorado, U.S.A., with a view thereto to enter into an agreement with W. Jackson and W. H. Waller and to carry on the business of wolfram and general miners, prospectors, explorers, metallurgists, etc. No initial public issue. The first directors are A. Nelson, H. Hitchon, J. J. Smithies, W. H. Waller and W. Jackson. Qualification £500. ordinary shares. Remuneration £2,000 per annum, divided. Registered office, Parr's Bank Buildings, 3, York-street, Manchester.

Direct Tin Smelters, Ltd.—Capital £5,000., in £1. shares. This company has been formed to carry on the business of smelters of and dealers in tin, lead, copper ores and metals, assayers, metallurgists, etc. No initial public issue. The first directors are to be appointed by the company or subscribers. Qualification 5 shares.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Gins.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Clds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending October 18.

Acetic Acid—
Belgium, 5 cks. Leach & Co.

Acetone—
A.-Hung., £670 P. E. Knowlden

Alum (Chrome)—
Germany, £35 J. M. Steel & Co.
,, 22 Bryce & Rumpf

Alumina—
Belgium, £26 Leach & Co.

Ammonia (Anhydrous)—
Belgium, £32 W. Voss & Co.

Ammonium Muriate—
Holland, £31 A.&M. Zimmermann

Ammonium Sulphocyanide—
Belgium, £21 C. Zimmermann & Co.
,, 21 J. Harrison, Ld.

Antimony Ore—
Queensland, 26 t. H. Bath & Son

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Antimony Ore—
Holland, 25 t. Quirk, Barton & Co.
China, 78 Major & Field

Antimony (Regulus)—
N.S.W., 15 t. P. W. Spence & Co.

Arsenic—
Portugal, £345 Coverley & Westray
Victoria, 140 W. & S. Bowditch

Barium Nitrate—
Germany, £41 G. Boor & Co.

Barium Sulphate—
Holland, 35 cks. A. Zumbeck & Co.

Barytes—
Germany, 45 cks. O. Lechla
,, 676 bgs. Luke & Bailey
Holland, 23 cks. O'Hara & Hoar
,, 525 bgs. Luke & Bailey
Belgium, 130 Taylor Bros.
Holland, 25 cks. ,,
,, 256 924 bgs. ,,
,, 295 pks. Felton & Crepin

Basic Slag—
Belgium, 50 t. G. J. McCaul & Co.

Bismuth—
Belgium, 10 t. W. M. Smith & Sons

Bone Meal—
E. Indies, 200 t. Hunter, Lomer & Co.

Calcium Carbide—
Norway, 22 c. J. Spurling

Calcium Chloride—
Germany, £26 London & Rhine S. Office

Castor Oil—
France, 10 brls. R. Warner
,, 20 cs. & Co.
,, 7 pks Weber, Smith & Hoare
Italy, 25 cs. Nicholson's Wvs.
,, 20 C. Zimmermann & Co.
France, 6 L & I D. Jt. Co.
,, 1 brl. ,,

Caoutchouc—
Germany, 11 c. Hale & Son
,, 13 Major & Field
Straits, 238 Prop. Hay's Wf.
,, 10 Lawrence, Boustead & Co.
Ceylon, 30 Rowe, White & Co.
,, 13 L. & I. D. Jt. Co.
,, 3 Shand, Haldane & Co.
,, 1 Litchfield & Soundy
,, 11 Hoare, Wilson & Co.
Straits, 131 Props. Bull Wf.
France, 4 L. & I. D. Jt. Co.
,, 319 S. Figgis & Co.
,, 4 France, Fenwick & Co.
Burmah, 6 L. & I. D. Jt. Co.
Straits, 5 Butler's Wf.
Holland, 6 t. 2 L. & I. D. Jt. Co.
France, 1 14 S. Figgis & Co.
,, 18 Wallace Bros.
,, 9 Props. Bull Wf.
Ceylon, 7 S. Figgis & Co.
,, 6 Lewis & Peat
France, 7 Butler's Wf.
,, 9 13 L. & I. D. Jt. Co.
Ceylon, 15 ,,
,, 7 Props. Bull Wf.
France, 4 France, Fenwick & Co.
Straits, 12 S. Figgis & Co.
,, 16 Weber, Smith & Hoare
Ceylon, 52 L. & I. D. Jt. Co.
,, 15 Crabbe & Co.

Chemicals (*otherwise undescribed*)
France, 7 t. J. Barber & Co.
Germany, £38 M. Dk. Co.
France, 12 J. Harrison

Chemicals (*otherwise undescribed*)
Belgium, £14 Leach & Co.
,, 9 United S. Co.
Germany, 8 London & Rhine Office
,, 16 L. & I. D. Jt. Co.
,, 59 T. H. Lee
,, 10 Argo S.S. Co.
Belgium, 10 J. Cockerill Line
,, 18 pks. ,,
France, 12 H. Johnson, Sons & Co.
Holland, 12 Hernu, Peron & Co.
Belgium, 20 Leach & Co.
Holland, 17 W. H. Muller & Co.
,, 1 J. Owen
U.S.A., 16 cs. L. & I. D. Jt. Co.
Germany, 9 cks. 5 cs. ,,
,, 20 dms. ,,
,, 11 pks. Argo S.S. Co.
,, 6 cs. ,,
,, 197 3 c. A. & M. Zimmermann
,, 31 Argo S.S. Co.
,, 1 ck. Prop. Hay's Wf.

Citric Acid—
France, 8 pks. B. & F. Wf. Co.
Holland, 5 kgs. Kirkpatrick, Barr & Co.
Germany, 10 B. & F. Wf. Co.
,, 10 Bacon & Co.

Citric Acid Crystals—
Holland, 10 kgs. W. C. Bacon & Co.

Coal Products—
Aniline Colours
Rotterdam, 4 cks.
Aniline
Germany, 10 pks. L. & I. D. Jt. Co.
,, 2 cks. Leach & Co.
Belgium, 2 J. Cockerill Line
,, 29 pks. ,,
Carbolic Acid
Holland, 50 cks. J. Owen
Pitch
N. Russia, 1,225 brls. Fellows, Morton & Co.
Germany, 90 cks. P. J. Johnson
,, 168 bgs. London Oil Storage Co.
Tar
Germany, 200 brls. W. Beard & Son

Colours—
Spain, 40 cks. F. Claydon & Co.
Germany, 5 Brit. Anti-flg. C. & P. Co., Ld.
,, 11 kgs. Prop.
,, 1 cs. Hay's Wf.
,, 15 pks. Argo S.S. Co.
Holland, 3 T. H. Lee
U.S.A., 40 cs. Lunham & Moore
,, 50 L. & I. D. Jt. Co.
Germany, 3 Argo S.S. Co.
,, 3 pks. ,,
Belgium, 133 J. Cockerill Line
,, 10 cs. ,,
France, 4 pks. H. Johnson, Sons & Co.
Germany, 20 dms. Brit. Anti-flg. C. & P. Co., Ld.
Germany, 6 cks. L. & I. D. Jt. Co.
Holland, 4 Atkins & Nisbet
,, 3 cs. ,,
France, 19 Livett, Frank & Son
Germany, 1 L. & I. D. Jt. Co.
Holland, 3 bgs. T. H. Lee
Germany, 4 pks. Argo S.S. Co.
,, 7 cs. ,,
N. Zealand, 15 cks. L. & I. D. Jt. Co.
Arg. Rep., 113 Phillipps & Graves

Copper Ore—
Germany, 55 t. Brandeis, Goldschmidt & Co.
Queensland, 15 H. Bath & Son
,, 22 Brandeis, Goldschmidt & Co.

Cottonseed Oil—
Holland, 5 brls. Prop. Hay's Wf.

Cottonseed Oil—
U.S.A., 100 trcs. W. Manning
Germany, 180 A. Vaughan

Cream of Tartar—
Germany, 20 cks. Prop. Hay's Wf.
Holland, 112 pks. S. White
Sweden, 631 A. & M. Zimmermann
Germany, 10 cks. B. & F. Wf. Co.
France, 14 pks. ,,
,, 14 Vokins & Co.
Holland, 100 kgs. Bacon & Co.
,, 100 A. J. Humphery

Dextrine—
Germany, 2 t. 3 c. L. & I. D. Jt. Co.
,, 13 M. Dk. Co.
Holland, 3 J. Barber & Co.

Dyestuffs —
Argois
Spain, 58 cks. Thames S. T. & L. Co.
Cutch
Holland, 2,616 t. Baxter,
,, 38 bgs. Hoare & Co.
Gambier
Straits, 90 bgs. Boustead & Co.
Hemlock Extract
Canada, 55 cks. Horne, Wilson & Co.
Indigo
E. Indies, 12 chts. L. & I. D. Jt. Co.
,, 18 Parsons & Keith
Indigo (Artificial)
Holland, 5 cks. Van Dam & Co.
Myrabolans
E. Indies, 1,000 pks. J. Greig
Quebracho Extract
Belgium, 5 cks. J. Harrison, Ld.
Sumac
Italy, 1,500 pks. J. Kitchin Ld.
,, 50 bgs. Carter, Paterson & Co.
,, 250 France, Fenwick & Co.
Tanners' Bark
Natal, 20 t. Williamson & Sons
,, 10 Hoare, Wilson & Co.
Belgium, 26 Leach & Co.
Natal, 43 Baxter, Hoare & Co.
,, 25 France, Fenwick & Co.
,, 39 G. W. Rly. Co.
,, 122 J. T. Rennie, Son & Co.
S. Aust., 25 Baxter, Hoare & Co.
Victoria, 49 Boutcher, Mortimore & Co.

Earth Colours—
Holland, 3 cs. Van Dam & Co.
,, 101 pks. W. H. Muller & Co.
Italy, 15 brls. J. Graves
,, 7 cks. Brandram Bros. & Co.
Germany, 8 Felton & Crepin
Holland, 60 bgs. O'Hara & Hoar
Italy, 8 brls. J. W. Doolev
Holland, 3 cks. W. Osterman & Co.

Glue—
Norway, £50 W. J. Davies & Sons
Belgium, 182 T. M. Duche & Sons
,, 18 J. Cockerill Line
France, 39 Mory & Co.
,, 330 Bennett S.S. Co.
,, 103 G. T. Symons & Co.
Belgium, 120 O. Murray & Co.
,, 45 D. C. Thomas & Son
Holland, 25 O. Lechla
,, 70 A. Foley & Co.
,, 7 W. H. Muller & Co.
,, 185 Van Dam & Co.
N. Russia, 5 Venesta, Ld.
Aust.-Hung., 800 P. Leiner & Sons
Germany, 60 Craven & Co.
,, 42 J. Watt & Son

Glue—
France, £20 Bennett S.S. Co.
Belgium, 120 T. M. Duche & Sons
,, 150 A. Price & Co.
France, 20 Bennett S.S. Co.
Germany, 40 Prop. Hay's Wf.
U.S.A., 80 H. Johnson, Sons & Co.

Farina—
Holland, 10 t. E. & T. Pink
,, 10 J. Barber & Co.

Glue Stock—
N.S.W., 7 t. 19 c. Anning & Cobb
Arg. Rep., 1 3 H. A. Lane & Co.
Queensland, 5 9 Anning & Cobb
,, 4 15 Goad, Rigg & Co.
France, 1 18 B. & F. Wf. Co.
Belgium, 21 10 Erith & Dartford L. Co.
Burmah, 13 Flack, Chandler & Co.

Glycerine—
Holland, £275 Spies Bros.
,, 26 W. H. Muller & Co.
,, 200 J. Barber & Co.
Victoria, 353 H. Hill & Sons
S. Aust., 217 ,,
N.S.W., 313 ,,
Queensland, 485 ,,

Gold Concentrates—
Pt. E. Africa, £552 Johnson & Sons

Gypsum—
France, 132 t. Lawes Chem. Manure Co.

Hyposulphite of Soda—
Germany, 5 c. J. M. Steel & Co.

Kainit—
Germany, 50 t. F. W. Berk & Co.

Lead Acetate—
Holland, £115 Van Dam & Co.
Germany, 150 J. Barber & Co.

Lead Nitrate—
Italy, £66 H. Johnson & Co.

Linseed Oil—
Holland, 28 cks. W. H. Muller & Co.
,, 28 Randall Bros.

Lithopone—
Holland, 10 cks. J. F. Lauderdale
Belgium, 12 ,,
Holland, 68 F. T. Nye
Germany, 80 Elkan & Co.
Holland, 20 W. Ostermann & Co.

Magnesite—
E. Indies, £72 Rock Mfg. Co.
Holland, 20 W. Danz

Magnesium Chloride—
Germany, £122 Fuerst Bros.

Mica—
E. Indies, £96 W. M. Smith & Sons
,, 160 Mercantile Ltge, Co.

Mineral White—
France, £32 W. Harrison & Co.

Molybdenite Ore—
N.S.W., 3 t. J. W. Cook & Co.
S. Aust., 1 L. & I. D. Jt. Co.

Olive Oil—
Italy, 2 t. 70 gals. L. & I. D. Jt. Co.
,, .5 brls. J. Greig
France, 72 B. & F. Wf. Co.
,, 61 L. & I. D. Jt. Co.
,, 3 t. 24 Gill & Duffus

Oxalic Acid—
Holland, 11 pks. R. W. Greeff & Co.
,, 5 cks. W. H. Muller & Co.

Paraffin Scale—
U.S.A., 442 t. 11 c. Anglo-American Oil Co.

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Paraffin Wax—
Holland, 3 t. 8 c. Phillipps & Graves
Germany, 6 14 Wilkins, Campbell & Co.
E. Indies, 19 9 Montgomerie & Workman
Germany, 1 L. & I. D. Jt. Co.

Phosphate—
Belgium, 75 t. W. H. J. Alexander
,, 50 G. J. McCaul & Co.

Phosphate of Lime—
France, 280 t. Anglo-Cont. Guano Works
U.S.A., 2,750 Hunter, Lomer & Co.

Plumbago—
Ceylon, 24 brls. Prop. Hay's Wf.
,, 63 G. R. Haller
U.S.A., 10 A. Branwell
Germany, 4 cks. Argo S.S. Co.
,, 16 B. Ballaway
Ceylon, 109 brls. Vasmer & Co.
,, 94 T. H. Lee
,, 73 brls. Montgomerie & Workman
France, 227 cks. J. Watt & Son
Germany, 356 brls. R. Warner & Co.
Ceylon, 42 A. Branwell
,, 582 Thredder, Son & Co.
Germany, 17 cks. ,,

Potassium Bichromate—
Holland, £58 Van Dam & Co.

Potassium Carbonate—
France, 3 cks. F. Horne & Co.

Potassium Chlorate—
Sweden, 15 kgs. G. Boor & Co.
France, 9 cks. Bell & Co.

Potassium Cyanide—
Germany, £42 Argo S.S. Co.

Potassium Iodide—
Japan, £250 R. Warner & Co.

Potassium Metasulphate—
Germany, £67 A. & M. Zimmermann

Potassium Muriate—
Germany, 50 bgs. Prop. Hay's Wf.

Potassium Permanganate—
Germany, 70 kgs. Petri Bros.
,, 60 cks. Craven & Co.
,, 60 bgs. H. Lorenz

Potassium Prussiate—
Belgium, 5 cks. J. Owen

Potassium Sulphate—
Germany, 1,500 bgs. W. Berk & Co.
,, 50 Charles & Fox

Pyrogallic Acid—
Holland, £24 2 cs. W. H. Muller & Co.
Germany, 67 A. & M. Zimmermann

Red Lead—
Holland, 40 cks. Felton & Crepin
Germany, 8 London & Rhine S. Office
Holland, 7 Randall Bros.
France, 60 J. Watt & Son
,, 1 C. Atkins & Nisbet
Holland, 3 Burrell & Co.
,, 13 F. T. H. Nye
,, 3 W. H. Muller & Co.

Rosin—
Portugal, 5 t. A. Carey
France, 10 cks. H. Wilson
,, 25 G. S. N. Co.
Burmah, 12 bgs. Flack, Chandler & Co.

Salicylic Acid—
France, £35 T. H. Lee

Saltpetre—
E. Indies, 25 t. Lucas & Spencer's Wvs.
Germany, 35 10 c. P. Hecker & Co.

Silver Concentrates—
P.E.Africa, £224 Johnson & Sons

Silver Ore—
U.S.A., £2,700 B. Ackerley&Son

Silver Sulphide—
Holland, £2,279 Dixon, Brunner & Co.

Soap—
France, £250 Phillipps & Home
,, 27 Mory & Co.
Germany, 8 L. & I. D. Jt. Co.
U.S.A., 20 W. Davis
,, 44 T. L. Field & Co.
,, 2,789 Props. Dowgate Dk.
,, 516 Mertens & Co.
,, 550 Amer. Express Co.
Holland, 22 W.H.Muller & Co.
Beigium, 24 D. C. Thomas & Son
France, 7 Mory & Co.
,, 870 Vokins & Co.
,, 41 Beresford & Co.

Soda—
Belgium, 25 t. G. A. Loos & Co.

Soda Crystals—
Holland, 70 t. W. H. Muller & Co.

Sodium Acetate—
France, 170 c. J. Harrison
Belgium, 5 Reitmeyer & Co.

Sodium Benzoate—
Germany, 1 c. T. H. Lee

Sodium Salicylate—
Germany, 4 c. T. H. Lee

Sodium Sulphate—
France, 1 t. 4 c. A. C. Hitchcock

Sodium Sulphite—
France, 10 c. T. H. Lee

Starch—
Holland, 16 c. W. H. Muller & Co.
,, 200 Starck & Co.
,, 700 Little & Johnston
,, 220 J. Barber & Co.
Belgium, 6 t. Leach & Co.
France, 11 A. C. Hitchcock

Stearine—
France, 6 bgs. Symons & Co.
Belgium, 39 Meyerstein & Co.
,, 63 G. Jennings
U.S.A., 6 pks. W. Davis

Sulphur—
Italy, 11 t. Fuerst Bros.
,, 5 G. Boor & Co.
,, 30 P. Hecker & Co.

Tallow—
Arg. Rep., 589 cks Phillipps & Graves
,, 113 Thornett & Fehr
B. W. I., 13 Props. Tower Bridge Wf.
N.S.W., 34 Kumpf & Eckenstein
,, 269 Goad, Rigg & Co.
,, 303 Concordia Wf.
Queensland, 173 J. Grey
,, 79 Thornett & Fehr
,, 320 Phillipps & Graves
S. Aust., 100 J. Owen
,, 56 Lucas & Spencer's Wf.
N.S.W., 64 ,,
,, 8 Anning & Cobb
N.Z., 131 ,,
Queensland, 389 ,,
,, 53 Thornett & Fehr
N.Z., 315 ,,
,, 166 N. Z. L. & M. A. Co.
,, 13 Goad, Rigg & Co.
S. Aust., 202 Phillipps & Graves
Victoria, 118 ,,
U.S.A., 26 H. Wheeler

Tartaric Acid—
Holland, 34 pks. F. C. Devon & Co.
Italy, 10 brls. Fuerst Bros.
,, 40 cks. B. & F. Wf. Co.
Holland, 16 ,,

Tin Crystals—
Holland, £35 J. Barber & Co.

Turpentine—
Germany, 1 brl. Blundell, Spence & Co.
France, 100 J. Watt & Son
,, 10 White & Foxwell

Ultramarine—
Germany, 2 cks. Spies Bros. & Co.
Holland, 3 2 cs. W. H. Muller & Co.
,, 2 Wilkinson, Heywood & Co.
Germany, 2 10 Argo S.S. Co.
,, 5 Leach & Co.
Holland, 10 A. Soutter & Co.
,, 6 pks. Robinson, Roberts & Co.

Wax—
Germany, 10cs. 23 bgs. T. H. 168 pks. Lee
,, 4 Litchfield & Soundy
,, 25cs. 55 Prop. Hay's Wf.
,, 29 23 T. H. 214 pks. Lee
Belgium, 10 cs. D. C. Thomas & Sons
Victoria, 16 Dalgety & Co.
Germany, 2 L. & I. D. Jt. Co.
S. Aust., 12 Leach & Co.
Italy, 6 Props. Middleton Wf.

White Lead—
U.S.A., 19 brls. W. & S. Bowditch
Germany, 23 cks. Spies, Bros. & Co.
,, 41 Randall & Co.
,, 3 Argo S.S. Co.
Holland, 52 Spies, Bros. & Co.
,, 22 W. H. Muller & Co.
Germany, 10 S. Bowley & Sons
,, 3 Duggan, Neel & Co.
Belgium, 73 T. & W. Farmiloe
Holland, 20 L. Berger & Sons
,, 79 Spies Bros. & Co.
,, 47 A. & M. Zimmermann

Wolfram Ore—
Straits, 4 t. J. Swire & Sons

Zinc Oxide—
France, 7 brls. L. & I. D. Jt. Co.
Holland, 20 cks. Dowgate Dock
Germany, 25 Weber, Smith & Hoare
Holland, 5 M. Ashby, Ld.
,, 50 F. T. H. Nye
,, 20 Felton & Crepin
Belgium, 20 brls. G. S. N.Co.
U.S.A., 600 M. Ashby, Ld.

Zinc White—
Holland, 43 cks. Felton & Crepin
,, 5 W. H. Muller & Co.
Germany, 125 brls. Spies Bros. & Co.

LIVERPOOL.

Week ending October 17.

Alkali—
Hamburg, 8 cks.

Aluminium—
Quebec, 250 bxs. British Aluminium Co.

Ammonium Muriate—
Antwerp, 10 cks.

Barytes—
Rotterdam, 80 pks

Beeswax—
Hamburg, 14 pks 35 cs
Bathurst, 12 Cie Française, etc.

Bones—
Marseilles, 660 bgs.

Borax—
Hamburg, 20 cks.

Castor Oil—
Genoa, 30 cs.
Calcutta, 150

Chemicals (*otherwise undescribed*)
Dunkirk, 89 cks.
Havre, 13 pks. Cunard S.S. Co.

Coal Products—
Pitch
Libau, 5 cks.
Tar
Libau, 10 cks.

Colours—
Antwerp, 95 pks.
Rouen, 1 ck. Co-op. W'sale Soc.

Copper Ore—
Colon, 100 sks.
Singapore, 4,431 bgs.

Cream of Tartar—
Bordeaux, 47 cks.
Marseilles, 1 brl.

Dextrine—
Hamburg, 12 cks.

Dyestuffs—
Dyewood Extract
Philadelphia, 300 brls.
Myrabolans
Bombay, 1,548 bgs.
Tannin Extract
Bordeaux, 801 cks.

Felspar—
Philadelphia, 50 brls.

Glucose—
New York, 790 brls.

Glue—
Antwerp, 3 cks.
Rouen, 100 bgs. Co-op. W'sale Society

Iron Oxide—
Trieste, 8 brls.

Lactic Acid—
Hamburg, 40 cks.
Boston, 77 brls.
Rotterdam, 10

Linseed Oil—
Rotterdam, 60 brls.

Litharge—
Rotterdam, 29 cks.

Lithopone—
Antwerp, 34 cks.
Rotterdam, 40

Magnesite—
Amsterdam, 94 bgs.
Rotterdam, 441

Magnesium Carbonate—
Rouen, 2 cs.

Manganese Ore—
Bombay, 1,000 t.

Mineral White—
Genoa, 100 bgs.
Trieste, 300
Bordeaux, 300

Olive Oil—
Bordeaux, 2 cs. Canadian Pacific Rly.
,, 572
Bari, 10
Marseilles, 307 1 brl.

Oxalic Acid—
Rotterdam, 19 cks.

Paraffin Wax—
Amsterdam, 350 bgs.

Phosphate—
Rouen, 470 t.
Ghent, 1,000 bgs.

Phosphate Rock—
Savannah, 3,150 t.
Tampo, 1,100

Phosphorus—
Montreal, 200 cs.

Plumbago—
Colombo, 24 brls.

Potash—
Montreal, 13 brls.
Hamburg, 40 dms.
Rouen, 42 cks. Co-op W'sale Society

Potash Lye—
Hamburg, 62 dms.

Potassium Permanganate—
Hamburg, 10 ts.

Potassium Prussiate—
Hamburg, 7 cks.

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Pyrites (Copper)—
Huelva, 980 t.

Red Lead—
Rotterdam, 52 cks.

Rosin—
Baltimore, 200 brls.
Savannah, 1,000

Rubber—
St. Nazaire, 13 brls.
Hamburg, 257 pks.
Colombo, 43 cs.
Libreville, 7 cks.
Addah, 8 Miller's, Ld.
G. Lahou, 9 Cie Française, etc.
" 20 R. & W. King
G. Bassa, 2 Liberian Rubber Co.
Sierra Leone, 5 Pickering & Berthoud
" 1 P. Ratcliffe & Co.
Bathurst, 2 Cie Française
" 2 A. Cros & Co.
Eloby, 3 J. Holt & Co.
" 2 Hatton & Cookson
Koko Beach, 6 "
Benito, 6 "
" 2 J. Holt & Co.
Batanga, 8 R. & W. King
Kribi, 9 Hatton & Cookson
" 9 J. Holt & Co.
Duala, 1 R. & W. King
Rio del Rey, 1 W. D. Woodin, etc.
Calabar, 4 African Assoc., Ld.
" 3 A. Miller, Bros., Ld.
" 1 Matthiessen&Co.
Cape Coast, 4 H. B. W. Russell & Co.
Bordeaux, 2
Koko, 7 H. Bey & Co.
Assini, 7 pks. Cie Franç. de K.
Bassam, 1 ck. Cie Française etc.
" 1 Oliver & Co.
Sassandra, 2 Woodin & Co.
Conakry, 3 Paterson, Zochonis & Co.
Montreal, 2 cs. Ferguson & Co.
Manaos, 885
Para, 718
Hamburg, 227 pks.

Salt—
Antwerp, 250 cs.

Saltpetre—
Hamburg, 43 cks.
Calcutta, 243 bgs.

Salt (Waste)—
Hamburg, 200 t. / 2,100 bgs.

Silver Ore—
Singapore, 447 bgs.

Soap—
New York, 350 brls
Bari, 75 cs.
Marseilles, 386
Philadelphia, 17 pks.
Halifax, 2 bxs. W. Gossage & Sons, Ld.

Soap Stock—
New York, 190 brls.
Fiume, 150 cs.

Soda—
Genoa, 96 brls.

Starch—
Fiume, 40 cs.
Marseilles, 100 bgs.
Antwerp, 20 J. T. Fletcher
Rotterdam, 90

Stearine—
Rotterdam, 7 bls.

Tallow—
Philadelphia, 50 tres.
Boston, 30
Sydney, 60 cks.
Adelaide, 180
Melbourne, 268
Sydney, 101

Tartar—
Rotterdam, 4 cks.

Tartaric Acid—
Marseilles, 12 brls.
Rotterdam, 4 crts.

Turpentine—
Savannah, 425 brls.

Ultramarine—
Rotterdam, 40 cks.

Wax—
Conakry, 7 bdls. Cie Franc. etc.
" 12 Paterson, Zochonis & Co.
Dakar, 15 A Cros
Montreal, 270 brls.
New York, 209
" 4,102

Wax Scale—
Baltimore, 355 brls.

White Lead—
Rotterdam, 24 cks.

Zinc Oxide—
Hamburg, 312 bgs.
New York, 500 brls.
Antwerp, 8

MANCHESTER.

Week ending October 19.

Ammonia—
Philadelphia, 155 cylds.

Antimony Lactate—
Hamburg, 5 cks.

Antimony Salt—
Rotterdam, 11 cks.

Arsenic—
Hamburg, 6 cks.

Barytes—
Hamburg, 22 cks.
Rotterdam, 20 250 bgs.

Calcium Carbide—
Gothenburg, 20 dms.

Caustic Potash—
Gothenburg, 16 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.
R'tterdam 137 / 15 pks. 11 brls.

Coal Products—
Creosote (Salt)
Rotterdam, 34 cks.
Naphthylamine
Rotterdam, 2 cks.

Colours—
Boston, 25 cs.
Hamburg, 4
Rotterdam, 2 568 pks.
Antwerp, 4 cks. Fletcher & Co.

Dextrine—
Hamburg, 8 cks.

Dyestuffs
Bark Extract
New York, 65 brls.
Tannin
Hamburg, 1 ck.

Farina—
Amsterdam, 50 bgs.

Ferro Silicon—
Gothenburg, 9 cks.

Glucose—
New York, 900 brls.

Glue—
Rouen, 15 cks.
Rotterdam, 5 bgs.
Antwerp, 19 b's. Fletcher
20 & Co.
" 58

Lactic Acid—
Rotterdam, 5 cks.

Lead Acetate—
Rotterdam, 18 cks.

Litharge—
Rouen, 21 cks.
Rotterdam, 55

Manganese Ore—
Poti, 4,250 t.

Oxalic Acid—
Rotterdam, 18 cks.

Paraffin Scale—
Philadelphia, 775 brls.
New York, 1,775

Paraffin Wax—
Philadelphia, 440 brls.

Rosin—
New York, 500 brls.

Rubber—
New York, 2 cs.

Salt—
Hamburg, 1 ck.

Salt (Waste)—
Hamburg. 150 t.

Soap—
Marseilles, 22 cs.
Boston, 6
Rotterdam, 6 cks.2
Philadelphia, 47
New York, 50 bxs.

Soda Crystals—
Antwerp, 20 cks. Fletcher & Co.

Sodium Acetate—
Antwerp, 74 cks. J. T. Fletcher & Co.

Sodium Chlorate—
Gothenburg, 8 cks.

Sodium Nitrite—
Rotterdam, 4 brls.

Sodium Nitrate—
Rouen, 10 cks.
Antwerp, 2 Fletcher & Co.

Sodium Phosphate—
Antwerp, 17 cks.

Sodium Prussiate—
Rouen, 3 cks.

Starch—
Hamburg, 20 cks.
Antwerp, 200 cs. Fletcher & Co.
" 438
Amsterdam, 1
New York, 4,075 bgs.

Stearine—
Antwerp, 138 bgs.

Tin Oxide—
Rotterdam, 3 cks.

Ultramarine—
Hamburg, 4 cks.
Rotterdam, 5 3 cs.

Wax—
N. York, 100 brls. / 20 cs.

Zinc Oxide—
Antwerp, 20 brls.

HULL.

Week ending October 19.

Alum (Chrome)—
Hamburg, 7 cks.

Alumina Sulphate—
Ghent, 50 bgs.

Arsenic—
Antwerp, 35 cks.

Asbestos—
Riga, 15 pks.
Genoa, 10 cs.

Barytes—
Antwerp, 25 cs. / 718 bgs.
" 400 Wilson, Sons & Co.
Antwerp, 30 cks. Wilsons & N.E. R. S. Co.
Rotterdam, 76 Hull & N. S.S. Co.

Calcium Carbide—
Antwerp, 124 bgs. Wilson, Sons & Co.

Castor Oil—
Genoa, 10 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 11 cks. Hull & N.
4 pks. S.S. Co.
Bremen, 6 cks. Veltmann
7 cs. & Co.

Coal Products—
Alizarine
Rotterdam, 53 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 358 pks. Hull & N. S.S. Co.
Naphtha
St. Petersburg, 12 brls.
Pitch
Hamburg, 30 brls.
Antwerp, 12 cks. Wilsons & N.E. R. S. Co.
Tar
Karachi, 175 brls.
Tar Oil
Rotterdam, 76 cks. Hull.& N. S.S. Co.

Colours—
Hamburg, 13 cks.2 cs.
Amsterdam, 10 pks. Hull & N. S.S. Co.
Zeebrugge, 27 cks.
Antwerp, 12 pks. Wilsons
& N.E. R. S. Co.
Danzig, 5 cks.
Zeebrugge, 22 2 cs.
Antwerp, 6 Wilson, Sons
133 pks. & Co.
Boston, 100 cs. "

Copper Ore—
Drontheim, 124 bgs. Wilsons & N.E. R. S. Co.

Dextrine—
Stettin, 6 brls.

Dyestuffs—
Myrabolans
Bombay, 2,002 bgs.
Sumac
Naples, 1,250 bgs.
Tanners' Extract
Rotterdam, 4 cks. Wilsons & N.E. R. S. Co.

Farina—
Amsterdam, 20 bgs. Wilsons & N.E. R. S. Co.
Stettin, 50

Formaldehyde—
Stettin, 6 brls. Wilsons & N.E. R. S. Co.

Glue—
Rotterdam, 10 bgs. Hull & N. S.S. Co.
Christ'nsund, 18 cks.

Hydrosulphate—
Rotterdam, 3 brls. Hull & N. S.S. Co.

Linseed Oil—
Amsterdam, 57 brls. Wilsons & N.E. R. S. Co.
Antwerp, 60
Rotterdam, 170 Hull & N. S.S. Co.
Amsterdam, 55 cks. "
Hamburg, 300 brls.

Magnesite—
Trieste, 339 bgs.

Oxalic Acid—
Hamburg, 15 cks. 22 cks.

Plumbago—
Hamburg, 17 cks.

Potash—
Hamburg, 59 dms. Wilsons & N.E. R. S. Co.
Antwerp, 50 cks.

Potassium Bromide—
Boston, 10 cs.

Rosin—
Boston, 494 brls.
Antwerp, 5 cks.

Saltpetre—
Rotterdam, 4 cks. Hull & N. S.S. Co.
Hamburg, 24 20 kgs.

Soap—
Genoa, 10 cs.
Naples, 4

Soap Powder—
Boston, 1,000 bxs.

Soda Crystals—
Ghent, 50 bgs.

Starch—
Antwerp, 29 cs. Wilsons & N.E. R. S. Co.
Bremen, 694 Veltmann & Co.
Antwerp, 27 Wilson, Sons & Co.
Ghent, 55 Wilsons & N.E. R. S. Co.

Talc—
Fredrikstad, 100 bgs.

Tallow—
Antwerp, 6 bgs.

Tartaric Acid—
Rotterdam, 1 ck. Hull & N. S.S. Co.
Trieste, 4 brls.

Turpentine—
Riga, 51 brls.

White Lead—
Amsterdam, 25 cks. Hull & N. S.S. Co.
Rotterdam, 25 "

Zinc White—
Rotterdam, 10 cks.

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GLASGOW.

Week ending October 24.

Acetic Acid—
Antwerp, 16 cbys.

Ammonium Salt—
Antwerp, 8 brls.

Asbestos—
Montreal, 300 bgs.
Rouen, 2 cs.

Barium Sulphate—
Antwerp, 300 bgs. / 162 cks. / 12 brls.

Castor Oil—
Antwerp, 229 brls.

Cream of Tartar—
Marseilles, 15 brls.
Bordeaux, 64 cks.

Iron Ore—
Bilbao, 1,850 t.
Serphos, 3,450 A. B. Craig
Seville, 3,950 W. Beard
Almeria, 3,150
Nantes, 1 bx.

Rosin—
Bordeaux, 100 cks.

Soap—
Montreal, 2 bxs.

Soda Crystals—
Antwerp, 280 bgs.

Sodium Acetate—
Antwerp, 18 cks.

Starch—
Antwerp, 540 crts. 130 cs.
Montreal, 20 bxs.

Wax—
Philadelphia, 325 brls.

Zinc Oxide—
Antwerp, 68 brls.

TYNE.

Week ending October 19.

Acetic Acid—
Antwerp, 25 cks. Tyne S.S. Co.

Antimony—
Hamburg, 1,262 bxs. Tyne S.S. Co.

Barytes—
Antwerp, 400 bgs. Tyne S.S. Co.

Calcium Carbide—
Trondhjem and Bergen, 10 dms. P. H. Matthiessen & Co.

Copper Oxide—
Hamburg, 34 dms. P. H. Matthiessen & Co.

Cream of Tartar—
Rotterdam, 2 cks.

Farina—
Rotterdam, 20 bls. Tyne S.S. Co.

Soda Crystals—
Ghent, 200 bgs. Tyne S.S. Co.

Starch—
Antwerp, 110 cs. Tyne S.S. Co.
Rotterdam, 70 ,,

White Lead—
Rotterdam, 23 cks. Tyne S.S. Co.

Zinc—
Antwerp, 4 cks. Tyne S.S. Co.

Zinc White—
Antwerp, 40 brls. Tyne S.S. Co.

GOOLE.

Week ending October 19.

Barytes—
Antwerp, 52 cks. / 50 bgs.

Bog Ore—
Amsterdam, 110 t.
Harlingen, 85

Caoutchouc—
Boulogne, 2 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 12 brls. / 1 cs.
Boulogne, 43 cks. 58 dms.
Ghent, 170 bgs.
Hamburg, 12 cks. 2 79
Rotterdam, 15 / 17 bgs.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 22 brls. / 1 cs.
Hamburg, 505 cks. 14 200 bgs.
Rotterdam, 763 45 5
Boulogne, 51 2

Farina—
Rotterdam, 50 bgs.
Hamburg, 150
Boulogne, 18 cs.
Delfzyl, 2,133

Glue—
Hamburg, 200 bgs.

Magnesite—
Amsterdam, 100 bgs.

Phosphate—
Boulogne, 915 bgs.

Potash—
Dunkirk, 6 cks. 9 dms.

Salammoniac—
Antwerp, 50 brls.

Saltpetre—
Antwerp, 135 bgs.

Salt (Waste)—
Hamburg, 100 t. / 630 cks.

Starch—
Amsterdam, 3 bgs.

Starch—
Antwerp, 10 bgs. 70 cs.
Ghent, 36
Rotterdam, 80

Stearine—
Hamburg, 80 cks.
Boulogne, 12

GRIMSBY.

Week ending October 19.

Caoutchouc—
Rotterdam, 2 cs.

Chalk—
Malmo, 100 bgs.

Chemicals (*otherwise undescribed*)
Hamburg, 2 cs.
Rotterdam, 2 cks. 5 cylds.

Colours—
Antwerp, 51 cks. 61 pks.
Hamburg, 9 21 cs.

Ferro Chrome—
Dieppe, 19 cks.

Formaldehyde—
Helsingborg, 25 pks.

Glue—
Dieppe, 10 bls.
Antwerp, 30 bgs.

Saltpetre—
Rotterdam, 135 bgs.

Sodium Phosphate—
Antwerp, 17 cks.

Starch—
Antwerp, 100 cs.

Tungsten—
Rotterdam, 2 pks.

Zinc Oxide—
Antwerp, 40 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 23.

Acetic Acid—
Colombo, 5 c. £15

Alum—
Dunedin, 20 t. £43
Rockhampton, 20 kgs. 6
Havana, 2 c. 3

Ammonia—
E. London, 3 c. £15
Cape Town, 10 cs. 15
Algoa Bay, 5 8
Rockhampton, 4 6
E. London, 5 15
Delagoa Bay, 12 35
Karachi, 4 6
Madeira, 7 17
Calcutta, 5 8
Fremantle, 3 15

Ammonia Anhydrous—
Calcutta, 5 cylds. £40
Bangkok, 6 100
Pt. Said, 12 100

Ammonium Carbonate—
Riga, 1 t. £27
Cologne, 3 2 c. 95
Penang, 13 25
Aarhus, 1 29
Antwerp, 14 cks. 28
Hamburg, 57 141
Dusseldorf, 12 18
Calais, 1 8
Bilbao, 1 4 kgs. 9
Calcutta, 5 13

Ammonium Chloride—
Montreal, 2 c. £6

Ammonium Nitrate—
Melbourne, 2 t. 3 c. £81

Ammonium Sulphate—
Yokohama, 100 t. £1,200
Kobe, 100 1,200
Melbourne, 2 cks. 8

Antimony (Regulus)—
Hamburg, 5 t.
St. Petersb'g, 10

Antimony Sulphide—
Boulogne, 10 c. £70

Arsenic—
Durban, 10 dms. £17

Barium Binoxide—
Newport N., 4 t. 6 c. £150
Dunkirk, 15 3 510
Kobe, 2 68

Basic Slag—
Wellington, 100 t. £200

Boracic Acid—
Naples, 11 c. £11
Algoa Bay, 4 6
Delagoa Bay, 10 12

Borax—
Harlingen, 1 cs. £5
Timaru, 5 c. 5
Delagoa Bay, 6 9
Smyrna, 8 cks. 18
Nagasaki, 2 t. 35
Melbourne, 3 6
Auckland, 2 8
Durban, 9 13

Carbon Bisulphide—
B. Ayres, 25 crts. £63
Monte Video, 10 25

Caustic Potash—
Perth, 3 c. £15

Caustic Soda—
Cape Town, 6 c. £8
B. Ayres, 14 t. 9 154
Lyttelton, 5 6
Seychelles, 3 19 43
Melbourne, 1 7 34
Sulina, 12 10

Chalk—
Boston, 700 t.

Chemicals (*otherwise undescribed*)
Durban, 9 pks. 2 cs. £50
Leghorn, 3 c. 12
Naples, 2 32
Genoa, 2 51
Montreal, 379 cks. 20 1,001
Ostend, 1 8
B. Ayres, 30 brls. 8 210
Salonica, 5 cks. 1 kg. 13 114
Malta, 1 7
Bremen, 13 65
Rio G. de Sul, 1 2 16 51
Dunedin, 3 c. 8
Sekondi, 7 dms. 5 kgs. 43
Rotterdam, 10 cs. 16
St. Petersburg, 2 26
Cadiz, 4 cks. 15
Calcutta, 20 32
Magnet, 1 6

Chemicals (*otherwise undescribed*)
Adelaide, 3 bls. £24
Cape Town, 1 cs. 7
Tientsin, 3 32
Hong Kong, 3 93
Gothenburg, 1 9
Melbourne, 1 ck. 5 29
Fremantle, 142 252
Piræus, 4 3 16
Perth, 2 crts. 1 26
Copenhagen, 1 48
Rangoon, 14 128
Puerto Mexico, 2 c. 14
Westport, 1 13

Citric Acid—
Algoa Bay, 8 c. £43
Wellington, 5 kgs. 50
Hamburg, 6 47
Pt. Natal, 1 5
Genoa, 1 t. 2 184
Calcutta, 2 cks. 1 55
Napier, 1 cs. 6
Timaru, 1 t. 1 7
Fremantle, 1 10
Adelaide, 5 53

Coal Products (*otherwise undes.*)—
Grenada, 1 cs. £5

Coal Products—
Alizarine
Bombay, 309 cks. £1,104
Boston, 25 334
Madras, 5 10
Tuticorin, 5 137
Alizarine Colour
Dunedin, 3 kgs. £68
Alizarine Powder
New York, 3 cks. £90
Boston, 20 268
Aniline Dye
Boulogne, 9 pks. £94
Melbourne, 6 cs. 110
Bitumen
Paris, 6 cks. £5
Alexandria, 4 6
Carbolic Acid
Rio de Jan., 20 dms. £10
Montreal, 3 cs. 9
Sydney, 10 cks. 14
Melbourne, 50 dms. 24
Mauritius, 8 6
Newport N., 120 25 928

Coal Products—
Carbolic Acid (Crystals)
Colombo, 3 cs. £10
Boston, 10 cks. 58
Carbolic Acid (Powder)
Durban, 6 cs. £6
Calcutta, 7 25
Creosote
Delagoa Bay, 75 dms. £22
Hydrocarbon
Brussels, 10 dms. £120
Naphthaline
Shanghai, 50 cs. £75
Pitch
Mauritius, 20 brls. £10
Dunkirk, 1,426 t. 2,161
Cette, 965 1,279
Tar
Durban, 550 dms. £38
B. Ayres, 15 cks. 28
Cape Town, 9 13
Algoa Bay, 248 brls. 128
Fremantle, 25 dms. 5
Tar Oil
Galatz, 15 dms. £395
Melbourne, 25 cks. 26
Rotterdam, 10 13
Boston, 65 109

Copper Sulphate—
Rio de Jan., 13 t. 10 c. £360
B. Ayres, 11 15
Trinidad, 2 48
Hobart, 3 86
Madeira, 1 25
Trinidad, 1 25

Cottonseed Oil—
Adelaide, 5 t. 11 c.
New York, 80 12

Cream of Tartar—
Fremantle, 1 t. £84

Cyanide (*otherwise undescribed*)—
Beira, 1 t. £80
Delagoa Bay, 10 16 c. 865

Disinfectants—
Algoa Bay, 200 dms. / 20 cks. / 15 cs. £102
Durban, 20 2 40 101
Colombo, 14 c. 34
Penang, 3 150 73
Wellington, 15 22 pks. 40

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Disinfectants—
Melbourne, 30 cs. 2 t. 12 c. £79
Bluff, 3 18
New York, 2 13
Shanghai, 3 6
Aden, 1 5 34
Copenhagen, 3 43
Constanti'ple, 1 6
Bombay, 4 6
Cape Town, 2 240 dms. 35 cs. 199
Calcutta, 4 22
Sydney, 6 27
Ghent, 1 ck. 6
Rockhampton, 3 11
Cologne, 10 175
Rangoon, 10 92
Marmagoa, 3 6
Odense, 1 16
Copenhagen, 2 26
Barbadoes, 3 6
Perth, 10 kgs. 6 30 10 brls. 45
Fremantle, 10 28 cs. 55 69

Fertilisers—
Colombo, 6 c. £9

Glycerine—
Algoa Bay, 3 dms. 1 t. 2 c. £72
Naples, 7 16
Genoa, 1 8
Delagoa Bay, 5 16
New York, 9 t. 14 360
Cape Town, 10 29

Gold Chloride—
Shanghai, 1 cs. £43

Hydrogen Peroxide—
Auckland, 5 c. £6

Lead Acetate—
Rio de Jan., 1 t. £37

Lead Nitrate—
Montreal, 20 t. 9 c. £620

Linseed Oil—
Aden, 1 t. 12 c.
Brisbane, 2 9
Broome, 15
Cape Town, 4 11
Colombo, 2 12
Cuba, 11
Durban, 1 11
E. London, 2 7
Hobart, 2 10
Hong Kong, 3
Jamaica, 1 14
Lyttelton, 18
Mauritius, 2 10
Melbourne, 5 15
Montreal, 8 12
Mossel Bay, 8
Otago, 8
Pernambuco, 2 15
Pt. Elizabeth, 4 11
Rio de Jan., 40 9
Rosario, 4
Santos, 4 11
Trinidad, 8
Wellington, 5 19
Adelaide, 7 9
Demerara, 2 2
Gibraltar, 14
Ibrail, 7
Invercargill, 3 4
Madras, 3
Penang, 5 2
Piræus, 7 10
Shanghai, 5
Sydney, 29 5
Syra, 1 11

Manure—
Mauritius, 302 t. 12 c. £1,707
Channel Is., 11 50
Kobe, 105 2 821
Martinique, 1 19 60
Trinidad, 25 250
Montreal, 3 3 10
Lisbon, 50 125
Cape Town, 89 267
Brest, 160 280

Muriatic Acid—
B. Ayres, 1 t. 12 c. £7
Bombay, 2 8 34

Nitric Acid—
Colombo, 4 c. £6

Phosphoric Acid—
Rotterdam, 4 c. £11
Antwerp, 2 7
Hamburg, 10 pks. 1 brl. 36

Phosphorus—
Sydney, 1 t. 10 c. £133
Melbourne, 5 cs. 32

Potash—
Sydney, 6 c. £48
Toronto, 1 6
Melbourne, 5 28

Potash Salt—
St. Johns, 1 c. £8

Potassium Bichromate—
Sydney, 6 c. £10

Potassium Carbonate—
Melbourne, 18 t. £23

Potassium Cyanide—
Delagoa Bay, 4 c. £17
Canton, 4 13

Potassium Prussiate—
Kobe, 3 c. £30
Hobart, 2 7

Salammoniac—
Antwerp, 1 t. £40

Salt—
Timaru, 97 t.
Wellington, 2

Saltpetre—
Hamburg, 10 t. £250
Melbourne, 3 9 c. 85
Fremantle, 1 25
Pernambuco, 5 14 150
Auckland, 5 121
Durban, 5 5

Saltpetre Crystals—
Rio de Jan., 10 c. £13

Sheep Dip—
Cape Town, 1,350 dms. £247
Algoa Bay, 300 65
Delagoa Bay, 25 5
Hamburg, 12 t. 17 c. 387

Soap—
Adelaide, 2 t. 16 c.
Aden, 1 16
Beira, 10
Bordeaux, 5
Boulogne, 12
Bremen, 14
Cape Town, 1 1
Channel Is, 1
Colombo, 1
Cuba, 4
Dunkirk, 1 10
Durban, 1
E London, 2
Gibraltar, 2
Grenada, 4
Hamburg, 1 2
Hong Kong, 1
Ibrail, 2
Lisbon, 2
Madras, 5 6
Mombasa, 7
Montreal, 7
Odessa, 3
Osaka, 7
Ostend, 3
Otago, 4
Paris, 11
Penang, 15
P. Elizabeth, 3 14
P. Swettenham, 1
Rio Grande, 1
St. Petersburg, 2
Shanghai, 16
Singapore, 4
Sydney, 5
Timaru, 2
Wellington, 1 5
Alexandria, 7
Barbadoes, 1
Cadiz, 2
Calcutta, 7 16
Ghent, 1
Melbourne, 2
Nagasaki, 6
Napier, 12
Salonica, 1 4
Toronto, 4
Varna, 1

Soda Crystals—
Singapore, 1 t. 10 c. £12
Penang, 1 13 9
Punta Arenas, 1 13 6

Sodium Bicarbonate—
Antwerp, 3 c. £5
Paris, 5 t. 50
Durban, 10 7
P. Mexico, 1 8
Fremantle, 10 7
Algoa Bay, 1 1 14

Sodium Bisulphate—
Toronto, 1 t. 5 c. £9

Sodium Carbonate—
Sekondi, 5 c. £5

Sodium Peroxide—
Sydney, 5 t. £65

Sodium Tartrate—
Adelaide, 14 c. £21

Starch—
Auckland, 2 t.
Brisbane, 1 4 c.
Cape Town, 4 9
Channel Is., 1 1
Christchurch, 3 5
Durban, 11 14
Galatz, 2 10
Timaru, 2
Rockhampton, 2 15

Sulphur—
Algoa Bay, 300 cs. 30 cks. 7 t. 19 c. £231
Melbourne, 1 2 20

Sulphuric Acid—
Colombo, 9 c. £5
B. Ayres, 6 t. 8 26
Mauritius, 2 5 11
Channel Is., 18 50
Demerara, 5 21

Superphosphate—
Demerara, 100 t. £355

Tallow—
Danzig, 5 t. 1 c.
Genoa, 30 9
Hamburg, 13 10
Harlingen, 6
Paris, 42 18
S. Petersb'g, 157 2
Durban, 1

Tartaric Acid—
Wellington, 7 kgs. 2 c. £49
Pt. Elizabeth, 3 18
Hamburg, 1 6
New York, 1 6
Manilla, 1 5
Durban, 1 6
Launceston, 2 10
Pt. Natal, 1 c. £6

Tin Crystals—
Barbadoes, 5 kgs. £56

White Lead—
Adelaide, £534
Brisbane, 331
Cape Town, 13
Otago, 78
Port Elizabeth, 87

LIVERPOOL

Period ending October 18.

Alkali Ammonia—
B. Ayres, 50t. 5 c. £227

Alum—
Rangoon, 7 t. 1 c. £38
Calcutta, 12 17 68
Demerara, 2 1
Bari, 1 17 10
P. Alegre, 2 3 13
Melbourne, 5 1 30
Santos, 1 3 7
Guayaquil, 8 3
Palma, 3 1

Aluminous Sulphate—
Galatz, 5 t. 8 c. £17

Ammonia—
Bassam, 2 brls. £4

Ammonium Carbonate—
Yokohama, 6 t. 15 c. £234
Rouen, 19 31
Rio G. do Sul, 12 24
Gothenburg, 10 17
Genoa, 5 19 203
Lisbon, 8 13
M Video, 15 25
Leghorn, 17 29
Venice, 1 35
Rouen, 2 13 79
Varna, 7 12

Ammonium Muriate—
Leghorn, 3 t. £72
Naples, 6 3 c. 148
Alexandria, 2 48
Montreal, 3 8 82
Oporto, 2 2
Lisbon, 2 2
Genoa, 20 4 482
Hamburg, 50 1 1,201
Lisbon, 1 1 25
Vera Cruz, 10 12
Cairo, 1 24
St. Petersburg, 6 6
Alexandria, 10 12
Barcelona, 3 1 70
Yokohama, 3 1 73
Hiogo, 7 13 183

Ammonium Sulphate—
N. Orleans, 41 t. 12 c. £582
Baltimore, 101 13 1,287
Philadelphia, 74 19 888
Teneriffe, 5 18 72
Las Palmas, 51 1 621
Hamburg, 100 1,200
Gd Canary, 11 144
Demerara, 300 3,637
Lisbon, 25 12 312
Kobe, 50 606
New York, 35 12 420
Valencia, 215 5 2,536
Almeria, 20 236
Moji, 99 14 189

Antimony Sulphide—
Boston, 1 t. 3 c. £138
Tampico, 10 c. £69

Arsenic—
Hiogo, 1 t. £30

Basic Slag—
Barcelona, 50 t. £75
Tarragona, 10 15
Valencia, 20 30
Oporto, 99 6 c. 150
St John's, 20 bgs. 4
Genoa, 130 260

Bleaching Powder—
Boston, 165 cks.
Portland, 81

Bone Ash—
Oruba, 2 kgs. £5

Bones (Dissolved)—
Las Palmas, 24 t. 15 c. £131

Boracic Acid—
Matanzas, 1 t. £26
Calcutta, 10 c. 13
Brisbane, 10 15
Melbourne, 1 1
Vera Cruz, 1 kg. 2

Borax—
Galatz, 1 t. 2 c. £16
Oporto, 10 10
Salonica, 15 11
Rangoon, 2 32
Santiago, 7 5
Vera Cruz, 10 8
Bombay, 3 10 56
Cienfuegos, 2 32
Brisbane, 6 5
Quebec, 5 brls. 12
Demerara, 1 kg. 1
S. Cruz, 1 1
Melbourne, 4 t. 15 c. 75
Mazathan, 1 1 40
Alexandria, 1 15

Calcium Carbide—
Rouen, 10 t. £19
Demerara, 2 c. 3

Calcium Chloride—
Rio de Jan., 1 t. 12 c. £3
M. Video, 3 11 8
Montreal, 15 1 27
Gutujewsky, 25 2 52
Perth, 1 2
Rangoon, 5 10

Calcium Sulphydrate—
Antwerp, 20 t. 15 c. £86

Carbonate of Lime—
Boston, 16 t. 18 c. £182

Carbonic Acid Gas—
Lisbon, 5 cs. £2
Burutu, 3 9
Ceara, 6 20
Marseilles, 10 5
Burutu, 6 tubes. 2

Castor Oil—
Port Madryn, 10 cs.

Caustic Potash—
New York, 1 t. 5 c. £36

Caustic Soda—
Bahia, 160 dms.
Bombay, 51
Calcutta, 5
Catania, 46
Cavalla, 48 brls.
Desterro, 20 bxs.
Melbourne, 10 cs.
Montreal, 415
Naples, 120
Para, 15
Sarawak, 300
Tjilatjap, 5
Progresso, 155 tins.
Rouen, 17
Sousse, 5
Sydney, 18

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Caustic Soda Ash—
B. Ayres, 92 cks.
Genoa, 30 dms.
Piræus, 10

Chalk—
Montreal, 75 bgs.

Chemicals (*otherwise undescribed*)
Acajutla, 1 kg. £2
Padang, 10 dms. 24
Samarang, 24 58
Cheribon, 5 12
Lagos, 2 cs. 6
Marseilles, 2 brls 15
Antwerp, 2 cks. 19
Genoa, 2 25 114
Montreal, 18 25 171
Malta, 10 kgs. 8
Dunedin, 35 cs. 32 113
Vancouver, 2 bdls. 12
Seattle, 1 cs. 8
B. Ayres, 20 cks. 48
Norrkoping, 2 13
Bombay, 30 brls. 164
Natal, 240 hf-trcs. 140
Calcutta, 231 2,111 slbs. 297
Callao, 5 cks. 5
P. Caballo, 1 cs. 1
Yokohama, 10 97

Chromium Acetate—
Lisbon, 18 c. £10

Citric Acid—
Sao Paulo, 2 c. £27

Coal Products—
Aniline Salts
Madras, 1 t. £60
Lisbon, 1 50
Carbolic Acid
Sierra Leone, 2 c. £5
Carbolic Acid (Liquid)
Rio de Jan., 6 t. 11 c. £132
Carbolic Acid (Solid)
New York, 2 t. 4 c. £155
Montreal, 13 29
Hamburg, 10 2 473
Portland, 1 6 75
Calcutta, 4 6
Yokohama, 5 262
Durban, 1 ck. 3
Creosote Salts
Bordeaux, 5 t. 2 c. £10
Bremen, 1 brl. 1

Copperas—
Madras, 3 t. 19 c. £9
Teneriffe, 3 9
G. Canary, 5 10
Coquimbo, 102 5 204
Las Palmas, 9 10 22

Copper Precipitate—
Victoria, 1 t. £47

Copper Sulphate—
Montreal, 51 t. 6 c. £1,314
Hamburg, 1 24
Gutajewsky, 45 3 1,129
Adelaide, 19 18 478
Amsterdam, 1 1 27
Calcutta, 6 141
Pt. Elizabeth, 5 6
Pasages, 4 19 118
Barcelona, 4 16 114
S.Petersburg, 10 260
M. Video, 19 13 436
Galatz, 10 245
Marseilles, 7 9 170
S. Cruz, 5 6
Dunedin, 6 180
Wellington, 3 90
Auckland, 2 60
Sydney, 10 228
Bordeaux, 24 6 532
Nantes, 14 12 324
Antwerp, 16 5 360
Madras, 15 16
Karachi, 2 10 56
Bombay, 5 112
Malaga, 9 17 244
Tampico, 9 18 228
Vera Cruz, 19 19 461
Gothenburg, 2 48

Cottonseed Oil—
Bordeaux, 118 brls.
Marseilles, 228
Rufisque, 10

Disinfectant—
Shanghai, 6 dms. £7
P.Elizabeth, 300 220
Calcutta, 50 10pk. 55
M. Video, 9 cs. 14
Trinidad, 35 1 81
S. Leone, 2 5
Constantinople, 2 15
Melbourne, 25 16
Lagos, 1 ck. 3
Colon, 1 4
Oporto, 1 7

Dried Blood—
Colombo, 78 t. 16 c. £737
Orotava, 1 18 19
Teneriffe, 2 10 24

Glycerine—
New York, 6 t. 1 c. £175
Kobe, 3 156
Alexandria, 4 18 238
Montreal, 15 14 683
P. Elizabeth, 1 5
Cape Town, 1 59
Greymouth, 1 3
Auckland, 1 55
Lyttelton, 1 55
Braila, 2 110
E. London, 5 12
Yokohama, 2 10 118
Antwerp, 10 26
New York, 8 212

Hydrochloric Acid—
Demerara, 3 cs. £2

Lead Nitrate—
Lisbon, 1 c. £3

Linseed Oil—
Havana, 16 cks.
Palermo, 5 brls.
Opobo, 5 dms.
Bahamas, 2 1
B. Ayres, 6
Cardenas, 4 20
Half Assinee, 10
Messina, 5
Parnahyba, 10
St. John's, 5
Manaos, 5
Manila, 200
Trinidad, 47
Valparaiso, 200
Wellington, 56

Magnesia—
Lisbon, 13 c. £40
Alexandria, 3 12

Magnesia (Calcined)—
Bahia, 2 c. £5
Havre, 5 12

Magnesite (Calcined)—
Delagoa Bay, 4 t. 5 c. £87
Melbourne, 1 29

Magnesium Carbonate—
Alicante, 2 t. 9 c. £44
Barcelona, 4 18 85
Trinidad, 3 5

Magnesium Chloride—
Rouen, 10 t. £43
Rangoon, 2 12 c. 15
Moulmein, 5 3

Manganese Oxide—
Oporto, 1 bx. £3

Manure—
La Pallice, 4 t. £20
Dunkirk, 12 18 c. 109
Rouen, 29 1 191
Lisbon, 19 1 32
Havre, 38 15 200
Gd. Canary, 10 2 91

Muriatic Acid—
Madras, 1 t. 19 c. £19
Bahia, 3 5

Nitrate of Iron—
Montreal, 2 t. 10 c. £12

Nitric Acid—
Bahia, 3 c. £6
Santos, 4 10

Oxalic Acid—
Santos, 1 ck. £7

Phosphorus—
Tampico, 5 c. £41
Trinidad, 3 25
Kobe, 2 t. 4 320

Phosphorus (Amorphous)—
Tampico, 10 cs. £110
Kobe, 2 t. 4 c. 440

Potashes—
B. Ayres, 1 t. 13 c. £26

Potassium Bicarbonate—
Lisbon, 8 c. £15

Potassium Bichromate—
Salonica, 1 t. 5 c. £40
Bombay, 1 14 53
Piræus, 1 1 35
Varna, 5 8
Alexandria, 2 10 76
Norrkoping, 1 4 37

Potassium Carbonate—
Lisbon, 9 c. £10
Boston, 8 t. 15 209
Calcutta, 8 12
San. de Cuba, 4 6

Potassium Chlorate—
Kobe, 75 t. £233
Venice, 4 16 s. 149
Naples, 3 8 105
Genoa, 19 30
Rotterdam, 2 4 65
Gothenburg, 4 18 147
Vera Cruz, 5 150
Ancona, 3 7 104

Potassium Chloride—
Bombay, 5 t. 2 c. £47

Potassium Cyanide—
Galveston, 45 t. £3,822
La Guayra, 1 8 c. 126
Delagoa Bay, 4 290

Potassium Prussiate—
Mollendo, 1 c. £5

Pyrogallic Acid—
St. John's, 1 cs. £2

Salammoniac—
Rangoon, 2 t. 5 c. £96
Karachi, 2 5 82
Mollendo, 1 2
Salonica, 6 12
Swatow, 25 15 311
Varna, 10 19
Demerara, 1 kg. 3

Salt—
Barbadoes, 24 t. 18 c.
Para, 42 12
Melbourne, 23
S. Leone, 178 11
Trinidad, 29 3
Valparaiso, 45 2
Wiberg, 1,000
B. Ayres, 206 cs.
Calabar, 500 bgs.
Cameroons, 1,304
Canada, 1,000
C. Palmas, 600 sks.
Ghent, 100
Jamaica, 570
N. Orleans, 2,925
Longji, 3,600
Matadi, 820
Valparaiso, 50 cs.

Saltpetre—
Oporto, 1 kg. £4
Saltpond, 1 cs. 2
Seattle, 1 t. 7 c. 39
Cabadello, 5 2 117

Sheep Dip—
Cape Town, 1 t. 5 c. £42
Algoa Bay, 6 100
Invercargill, 1 5 38
M. Video, 8 140
Natal, 8 150
E. London, 13 5 311
Patagonia, 2 3 80
B. Ayres, 30 2 200 dms. 550
Wellington, 30 cs. 38
P. Lyttelton, 54 65

Soap—
Bathurst, 125 bxs.
,, 2 cs.
Bermuda, 100
Bilbao, 20
Boston, 3 cks.
,, 3
Buguma, 300
Calabar, 60
Cameroons, 490
Cape Town, 250 bdls.
Degama, 300
Delagoa B., 500 103 cs.
Durban, 2
,, 50
E. London, 8
Genoa, 45
Ghent, 40
Opobo, 1,120
Para, 834 bdls.
Rangoon, 255 500 cs.
Piræus, 207
Pontianak, 500
P. Elizabeth, 312
Rotterdam, 955
St. John's, 65
Salonica, 28
Singapore, 1,860
Stockholm, 150
Kinschassa, 205
Las Palmas, 424
Matadi, 738
Samarinda, 100
Sekondi, 50
S. Leone, 820
Surinam, 80
Tunis, 80
Yloilo, 2

Soda Ash—
Rotterdam, 200 bgs. 56 brls.
Rio de Jan., 20 cks.
,, 100
Salonica, 65
Smyrna, 200 bgs.
Sourabaya, 50
Perth, 10
Progresso, 500
Sydney, 157
Santos, 136 15 cs. 400 kgs.

Soda Crystals—
B. Ayres, 800 dms.
Sandy Point, 70 kgs.

Sodium Bicarbonate—
Galatz, 22
Penang, 20 kgs.
Port Limon, 20
Progresso, 175
Rangoon, 170
Rio de Jan., 40
Rosario, 50
Santos, 180
Spain, 235
Sydney, 81 100 bgs.
Varna, 48 dms.

Sodium Silicate—
B. Ayres, 95 brls.
Calcutta, 6 cks.
Cavalla, 4 dms.
Melbourne, 37 29
Montreal, 50
Stockholm, 16
Rotterdam, 30
Piræus, 64 cs.
Lisbon, 58 brls.
Spain, 50
Tampico, 67 2 bgs.
Zante, 35

Sulphide of Iron—
Rouen, 4 t. 18 c. £20

Sulphur—
Algoa Bay, 6 t. £66
Gothenburg, 290 1,315
Seattle, 6 c. 3
Cabadello, 16 10
Montreal, 175 1 727
Madras, 25 131

Sulphuric Acid—
La Union, 12 cs. £6
Forcados, 1 1
Demerara, 5 t. 33
Iquitos, 3 2
Manaos, 2 c. 6

Superphosphates—
Teneriffe, 28 t. 19 c. £84
Las Palmas, 5 10 49
Lisbon, 99 371
Malaga, 631 13 2,037
Canary, 19 12 64

Tallow—
Braila, 24 pps.
Hamburg, 150 tcs.
S. Leone, 2 cks.

Tannic Acid—
Sao Paulo, 1 c. £8

Tartaric Acid—
Sao Paulo, 6 c. £37

Zinc Chloride—
Bombay, 2 t. 6 c. £61
Rio de Jan., 11 10

Zinc Muriate—
Gothenburg, 30 t. 15 c. £339
Sydney, 12 6
Hong Kong, 2 15 35
Bombay, 1 15 20

Zinc Sulphate—
Santos, 1 ck. £1

MANCHESTER.

Week ending October 23.

Ammonium Muriate—
Rotterdam, 14 cks.

Antimony Sulphate—
Melbourne, 2 cks.

Bleaching Powder—
Philadelphia, 42 cks.

Caustic Soda—
Lattakia, 9 dms.

Chemicals (*otherwise undescribed*)
Beyrout, 14 brls.
Sydney, 20 kgs.

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Coal Products—
Aniline Oil
St. Petersburg, 44 dms.
Aniline Salt
St. Petersburg, 260 pns.
Alexandria, 40 brls.
Naphthylamine
Germany, 29 cks.
Pitch
Antwerp, 136 t. 10 c.

Glue—
Alexandria, 1 ck.
Boston, 1
Antwerp, 10

Glycerine—
Germany, 60 dms.
Philadelphia, 200

Linseed Oil—
Beyrout, 10 brls.

Salt—
Quebec, 500 t.
R'terdam, 250 / 14 cks.

Soap—
Alexandria, 200 bxs.

Soda Ash—
Lattakia, 50 brls.

Soda Crystals—
Aleppo, 16 brls.
Jaffa, 22
Sfax, 30 bgs.

Sodium Prussiate—
Boston, 20 brls.

HULL.

Week ending October 19.

Alum—
Montreal, 100 brls.

Ammonium Sulphate—
Dunkirk, 342 bgs.
Italy, 690

Antimony—
New York, 360 cks.

Asbestos—
Rotterdam, 1 bl.

Chemicals (*otherwise undescribed*)
Amsterdam, 74 cks.
Bergen, 41
Buenos Ayres, 67 cs. 68 dms.
Boston, 110
Christiania, 731 slbs.
Constanti'ple, 12
Danzig, 48 3 kgs.
Gothenburg, 250 9 457 slbs.
Hamburg, 150 16 3 pks. 1 kg.
Helsingfors, 9
Konigsberg, 25
Libau, 14 pks.
Messina, 3
Odessa, 165 4 kgs.
Palermo, 3
Rotterdam, 130 19 pks.
Riga, 48 bgs.
Stettin, 13 dms.
St. Petersb'g, 75
Wasa, 1,523

Coal Products
Pitch
Dunkirk, 100 t.
Stockholm, 25 cks.
Wasa, 132 bgs.
Tar
Christiania, 6 cks.

Colours—
Bergen, 1 ck.
B. Ayres, 113 127 cs.
Boston, 91 75 kgs.
Christiansund, 1
Christiania, 32
Constantinople, 23 40
Danzig, 8
Dunkirk, 7
Gothenburg, 1 200 bgs.
Ghent, 5 8
Hamburg, 22 30 cs.
Konigsberg, 27
Monte Video, 2 205
New York, 116
Odessa, 51
Rotterdam, 8 10 bgs. 1 bx. 58 dms.
Riga, 2
Stettin, 10 1 cs.
St. Petersb'g, 80
Stockholm, 1 brl.
Rio de Jan., 7

Cottonseed Oil—
Amsterdam, 13 t. 2 c.
Christiania, 3
Christi'nsand, 7
Copenhagen, 1 15
Constanti'ple, 8 15
Hamburg, 33 6
Stettin, 3 8

Dyestuffs (*otherwise undescribed*)—
Hamburg, 2 cs.

Linseed Oil—
Amsterdam, 17 c.
B. Ayres, 2 t. 10
Christiania, 6 5
Constanti'ple, 2
Gothenburg, 10
Hamburg, 5 5
Rio de Jan., 1 3

Litharge—
Riga, 34 cks.

Magnesia—
Antwerp, 10 cs.

Manure—
Hamburg, 950 bgs.
New York, 1,120

Plumbago—
Rio de Jan., 4 cks.

Salt—
Antwerp, 200 cs.

Soap—
Fiume, 10 brls.
Montreal, 95

Starch—
Christiania, 20 cs.
Copenhagen, 55
Gothenburg, 25
Odessa, 600

Tallow—
Copenhagen, 15 cks.
Constan'ple, 200
Rotterdam, 10 34 bgs.
Wasa, 45

Turpentine—
Christiansund, 1 ck.
Buenos Ayres, 5 cs.
Christiania, 5
Gothenburg, 10
Hamburg, 71

GLASGOW.

Week ending October 24.

Ammonium Sulphate—
Kobe, 202 t. 2 c. 1 q.
Algiers, 50 10 3
Almeria, 100 17
Valencia, 20 5
Mauritius, 300
Norfolk, 322 3
Newport N., 100 7 2
Osaka, 100 5 2
Yokohama, 304 16

Caustic Potash—
Melbourne, 1 t.

Caustic Soda—
Media Luna, 19 c. 2 q.

Chemicals (*otherwise undescribed*)
Gijon, £96
Havre, 127
San Francisco, 263
Shanghai, 40

Citric Acid—
Vancouver, £18

Coal Products—
Aniline Dye
Calcutta, 1 c.
Pitch
Catania, £25
Genoa, 50
Belgium, 294
Montreal, 27
Tar
Straits, £50

Colours—
Kobe, £32

Cream of Tartar—
Kobe, 1 t.

Dyestuffs (*otherwise undescribed*)—
Canada, £510
Australia, 50

Dyestuffs
Tanners' Extract
Genoa, £401

Farina—
Gothenburg, 2 t. 10 c.
Melbourne, 1 2

Glycerine—
Victoria, B.C., £630

Lead Acetate—
Canada, 1 t. 5 c. 3 q.

Lead Nitrate—
Belgium, 1 t. 3 q.

Linseed Oil—
Melbourne, 16 t. 14 c.
Sydney, 9 5 q.
Cebu, 1 2 q.
Manilla, 2 4
Media Luna, 1 3

Litharge—
Fremantle, £60

Manure—
Yokohama, 1 c. 3 q.

Oxalic Acid—
Singapore, £65

Paraffin Wax—
Genoa, 5 c. 3 q.
Leghorn, 3 t. 8 2
Naples, 3 19 3
Barcelona, 2 19 3
Santos, 7 3 3
Spain, 17 18 3
Valparaiso, 10

Potassium Bichromate—
Adelaide, 1 t. 9 c.
Genoa, 14 3 2 q.
Kobe, 4 3
Sydney, 1 8
Yokohama, 12 19 3
Antwerp, 2 3 1
Montreal, 8 3

Potassium Cyanide—
Kobe, £396
Melbourne, 1,540
Sydney, 700
Fremantle, 1,105
Delagoa Bay, 338
Rio de Janeiro, 721

Red Lead—
Adelaide, 2 t. 3 c.
Calcutta, 1 16 2 q.
Melbourne, 5 3
Sydney, 5 3 2
Media Luna, 1 10 2
Singapore, 10
Newcastle, 3

Saltpetre—
Vancouver, 1 t. 13 c.

Sheep Dip—
Port Stanley, £25

Soap—
Chefoo, 2 t. 4 c. 2 q.
Cape Town, 2 4 2
Victoria, 3
Canada, 6 2
Delagoa Bay, 7

Sodium Bichromate—
Canada, 5 t. 2 c.
Genoa, 13 4 1 q.
Sydney, £227
Montreal, 3 3 2

Sodium Cyanide—
Melbourne, £725
Fremantle, 695
Marii, 15 t. 2,339
Delagoa Bay, 123
Natal,

Starch—
Genoa, £94

Superphosphate—
Algiers, 700 t.

Turpentine—
B. Ayres, £33

White Lead—
Adelaide, 1 t.
Brisbane, 4 4 c. 3 q.
Calcutta, 13 8
Newcastle, 10 6
Sydney, 26 1 3
Algoa Bay, 5 1
Ghent, 11
Media Luna, 1 12 1
B. Ayres, 15 3
Delagoa Bay, 3 12

Zinc Oxide—
Calcutta, 1 t. 2 c.

TYNE.

Week ending October 19.

Ammonium Carbonate—
Copenhagen, 15 c. 3 q. 8 lb.

Antimony (Regulus)—
Hamburg, 13 t.
Rotterdam, 5

Ammonia—
Pomaron, 9 c

Barium Binoxide—
Hamburg, 26 t. 5 c. 3 q. 15 lb.
Antwerp, 10 13 3 2

Barium Carbonate—
Hamburg, 186 t.

Bleaching Powder—
Rotterdam, 10 t. 8 c. 3 q. 5 lb.

Caustic Soda—
Copenhagen, 5 t. 16 c. 8 lb.
Bergen and Trondhjem, 3 9 2 q 16
Bergen and Stavanger, 1 4 12

Chemicals (*otherwise undescribed*)
Pomaron, 8 c 2 q 18 lb

Coal Products—
Pitch
Antwerp, 10 t. 18 c.
Tar
Pomaron, 4 t. 15 c.

Litharge—
Hamburg, 14 c. 3 q. 7 lb.

Red Lead—
Hamburg, 26 t. 17 c. 3 q. 20 lb.
Copenhagen, 2 12 3 21
Bergen and Trondhjem, 10 1 20

Soap—
Bergen and Trondhjem, 3 t. 17 c. 1 q. 23 lb.
Stavanger and Bergen, 2 18 1 9

Soda—
Bergen and Trondhjem, 10 t.

Sodium Sulphate—
Copenhagen, 2 t. 8 c. 1 q. 13 lb.

White Lead—
Rotterdam, 23 cks. Tyne S.S. Co.
Antwerp, 2 t. 1 c. q. 2 lb.
Copenhagen, 9 16 3 11
Rotterdam, 9 2 9

GOOLE.

Week ending October 19.

Chemicals (*otherwise undescribed*)
Antwerp, 35 cs. / 31 cks. 10 bgs.
Hamburg, 45
Rotterdam, 57

Coal Products (*otherwise undes.*)—
Antwerp, 2 tins
Boulogne, 47 cks.
Hamburg, 49

Coal Products—
Pitch
Antwerp, 390 t.
Dunkirk, 298

Colours—
Boulogne, 6 pks.
Ghent, 1 ck.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 37 cks. 1 cs.
Rotterdam, 11

Manure—
Dunkirk, 100 bgs.
Rotterdam, 500

GRIMSBY.

Week ending October 19.

Chalk—
Hamburg, 20 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 10 cks. 20 kgs.
Malmo, 22
Rotterdam, 2 bgs.

Coal Products (*otherwise undes.*)—
Dieppe, 55 brls.

Colours—
Dieppe, 10 brls.
Hamburg, 2

Dyestuffs (*otherwise undescribed*)—
Dieppe, 1 cs.
Hamburg, 13 pks.
Rotterdam, 7 6 kgs.

Manure—
Hamburg, 134 bgs.

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PRICES CURRENT.

FRIDAY, November 1, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.	
Acids :—					
* Acetic, 25% and 40%	per cwt.	9/-	&	13/-	
* ,, Glacial	,,		40/-		
Arsenic S.G. 2,000°	,,		31/-		
* Fluoric	per lb.	0	0	4½	
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/-		
,, (Cylinder), 30° Tw.	,,	0	2	9	
* Nitric 80° Tw.	per ton	14	15	0	
* Nitrous	nett per cwt.	0	18	6	
Oxalic	per lb.	0	0	3¾	
Phosphoric, 1750°	,,	0	0	10½	
Picric	,,	0	0	11	
* Sulphuric (fuming 70%)	per ton	6	0	0	
* ,, (Pyrites, 168°)	,,	3	2	6	
* ,, (,, 150°)	,,		30/-		
* ,, (free from arsenic, 145°)	,,		36/-		
* Sulphurous (solution) S.G. 1025	,,	3	0	0	
Tannic	per lb.	0	1	3	
Tartaric	,,	0	0	11½	
*Acetone	per ton	82	10	0	
Arsenic, white powdered	nett ,,	29	15	0	
*Alum, loose lump (delivered)	,,	5	12	6	
Alumina Sulphate (pure)	,,	4	7	6	
Aluminoferric (in slabs)	,,	2	12	6	
Aluminium (Ingot metal 98/99%)	nett ,,	200	0	0	
*Ammonia, Anhydrous	per lb.	0	1	1	
* ,, .880	per ton	24	0	0	
* ,, .920	,,	13	0	0	
,, Carbonate	per lb.	0	0	3½	
,, Muriate (grey)	per ton	25	0	0	
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-	
,, Nitrate	per ton	36	0	0	
,, Phosphate	,,	38	0	0	
,, Sulphate (grey). London	,,	11	17	6	
,, ,, ,, Hull	,,	11	18	9	
,, ,, ,, Manchester	,,	11	17	6	
*Aniline Oil (pure)	per lb.	0	0	5½	
Aniline Salt ,,	,,	0	0	4½	
Antimony	per ton	45	0	0	
,, (tartar emetic) 43/44%	per lb.	0	0	9½	
,, (golden sulphide)	,,	0	1	3	
Barium Chloride	per ton	7	5	0	
,, Carbonate (native). 92/94%	,,	5	0	0	
,, Sulphate (native levigated)	,,	45/-	to	65/-	
*Bisulphide of Carbon	,,	18	10	0	
Bleaching Powder, 35%	nett ,,	4	7	6	
* ,, Liquor, 7%	,,	2	0	0	
Chromium Acetate (powder)	per lb.	0	0	5¼	
Calcium Chloride	per ton	2	10	0	
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6	
Coal Tar Products and Dyes :—					
Alizarine (artificial), 20%	nett per lb.	0	0	7	
Magenta	,,	0	2	3	
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾	
Benzol, 90's	per gallon	0	0	8¾	
,, 50/90	,,	0	0	9	
Carbolic Acid (crude 60°)	,,	0	1	8	
,, (crystallised 40°)	per lb.	0	0	5¼	
,, (liquid 95/97%)	per gallon	0	1	3	
* Creosote (ordinary), naked	,,	0	0	2¾	
* ,, (filtered for Lucigen light)	,,	0	0	3¼	
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½	
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0	
* Pitch, f.o.b. Liverpool or Garston	,,	1	4	0	
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3	
Copper	per ton	65	10	0	
,, Sulphate	,,	24	10	0	
,, Oxide (copper scales)	,,	50	0	0	
*Glycerine (crude), 80%	,,	33	10	0	
* ,, (distilled S.G. 1260°)	,,	60	0	0	
Iodine	nett per oz.	0	0	6	
*Iron Sulphate (copperas)	per ton	1	10	0	
,, Sulphide	,,	3	10	0	
Lead (sheet)	,,	20	5	0	
,, Litharge Flake (ex ship)	,,	23	0	0	
,, Acetate (white) ,,	,,	31	0	0	
,, ,, (brown) ,,	,,	26	0	0	
,, Carbonate (white lead), pure	,,	25	10	0	
,, Nitrate	,,	33	0	0	

		£	s.	d.	
Lime, Acetate (brown) (ex ship)	per ton	8	7	6	
,, ,, (grey) 80%	,,	12	10	0	
Magnesium (ribbon and wire)	per lb.	1	0	0	
,, Chloride	per ton	3	7	6	
,, Carbonate	per cwt.	1	17	6	
,, Calcined Magnesia	per ton	17	0	0	
,, Sulphate (Epsom Salts)	,,	3	0	0	*
Manganese, Sulphate,	,,	17	10	0	
,, Borate	per cwt.	2	2	6	
,, Ore, 70%	per ton	7	15	0	
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5	*
Naphtha (Wood), Solvent	,,	0	2	4	*
,, ,, Miscible, 60° O.P.	,,	0	1	10	*
Oils :—					
Cottonseed	per ton	24	15	0	
Linseed	,,	25	5	0	
Stearine	,,	32	0	0	
Phosphorus (yellow)	per lb.	0	1	5	
,, (red)	,,	0	1	11	
Potassium, Bichromate	nett ,,	0	0	3½	
,, Carbonate, 90% (ex ship)	per ton	19	10	0	
,, Chlorate	per lb.	0	0	3½	
,, Cyanide, 98%	,,	0	0	8½	
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0	
,, ,, ,, 75/80%	,,	21	0	0	
,, Potash Hydrate Liquid, 50%	,,	14	10	0	*
,, Nitrate (refined)	,,	23	10	0	
,, Permanganate (small crystals)	per cwt.		36/-		
,, Prussiate (yellow)	per lb.	0	0	5½	
,, Sulphate, 90% (ex ship)	per ton	9	15	0	
,, Muriate, 80% ,,	,,	9	0	0	
Silver (metal)	per oz.	0	2	3 5/16	
Sodium (metal)	per lb.	0	3	0	
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r. works	5	15	0	
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0	
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0	
,, ,, (Alkali), 58% (bags)	,, ,,	4	10	0	
,, ,, (Soda Crystals)	,, ,,	2	17	0	*
,, Acetate (ex ship)	,,	17	5	0	
,, Arseniate, 45%	,,	24	0	0	
,, Borate (Borax), Crystals	,,	16	0	0	
,, Bichromate	,, per lb.	0	0	3	
,, Cyanide (100% basis)	,, ,,	0	0	7½	
,, Chlorate	,,	0	0	3½	
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0	
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	15	0	
,, ,, (70% C. Soda) ,, ,,	,, ,,	10	5	0	
,, ,, (60% C. Soda) ,, ,,	,, ,,	9	5	0	
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	15	0	
,, 77/78% powdered (99% hydrate)	per ton	12	10	0	
,, Bicarbonate (cwt. kegs)	,,	6	15	0	
,, Hyposulphite	,,	6	5	0	
,, Manganate, 25%	,,	20	0	0	*
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	4½	
,, Nitrite, 98%	per ton	29	10	0	
,, Phosphate	,,	9	5	0	
,, Prussiate	per lb.	0	0	3⅝	
,, Silicate (glass)	per ton	5	5	0	
,, ,, (liquid, 100° Tw.)	,,	3	17	6	
,, Stannate, 40%	per lb.	0	0	9	
,, Sulphate (Salt-cake)	per ton	2	2	6	*
,, ,, (Glauber's Salts)	,,	1	15	0	*
,, Sulphide (crystals)	,,	6	5	0	
,, Sulphite	,,	6	5	0	
Strontium Hydrate, 100%	,,	9	0	0	
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½	
,, Barium, 95%	,,	0	0	3½	
,, Potassium	,,	0	0	7	
Sulphur (Flowers)	per ton	6	10	0	
,, (Roll Brimstone)	,,	6	5	0	
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6	*
Superphosphate of Lime (26%)	,,	2	10	0	
Tallow	,,	33	10	0	
Tin Crystals	per lb.	0	0	11	
,, English Ingots	per ton	150	0	0	
Zinc (Spelter)	,,	22	0	0	
,, Chloride (solution, 100° Tw.)	,,	6	5	0	*
,, Sulphate, Crystal	,,	7	10	0	

* *Packages extra, or returnable:* Otherwise, prices usually include packages.

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THE

CHEMICAL TRADE JOURNAL

AND

CHEMICAL ENGINEER.

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LATE ADVERTISEMENTS.

MANAGER.—Smart Business Man, with good knowledge and all round experience of chemical trade, wants responsible position. Excellent qualifications, good organiser and accustomed to control.—Box "1,558," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

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ANTIMONY SMELTER, 22 years' experience, seeks situation, home or abroad. Manufacturer of oxide, sulphide and regulus of antimony from high, low, and complex ores.—"1,581," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CHEMICAL ASSISTANT (39) experienced in commercial analysis, etc., requires post in works or other laboratory. Good testimonials and educational certificates.—"1,578," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

METALLURGICAL CHEMIST.—Wanted for abroad, a young Metallurgical Chemist, preferably a technical graduate with some practical experience of copper smelting.—Address, stating salary required and giving full particulars of training and experience, to "B.E.P.," c/o Streets, 30, Cornhill, E.C.

MANAGER Wanted for Glue Works in England. Must be up-to-date and capable of making first-class glue from bones and from skins.—Replies, treated confidentially, giving full particulars of experience, salary required, etc., to "Glue," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

Advertisements.

Prepaid Advertisements of Situations Vacant, Premises on Sale or To Be Let, Miscellaneous Wants, and Specific Articles for Sale by Private Contract are inserted in the *Chemical Trade Journal* at the following rates:—

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Advertisements intended for insertion in the current week's issue should reach the office by Thursday morning at the latest.

CURRENT TOPICS.

THE RAILWAY CRISIS.

THE success of the President of the Board of Trade in effecting a satisfactory settlement of the labour dispute in the railway world has created a feeling of profound relief in all sections of the community. The result of a general strike on the railways would inevitably have been disastrous from every point of view. The temporary disorganisation of the principal methods of communication and transport generally would have had such serious and far-reaching effects that the complete removal of the impending danger is an achievement for which Mr. Lloyd-George deserves the heartiest congratulations. His appointment to the Board of Trade, on the advent of the present Government to office, was not received with unqualified approval, especially in trade circles; but his statesmanlike conduct of several difficult and important negotiations had already created a feeling of confidence in his ability, and the settlement of the railway trouble, through his mediation, will do much to enhance his reputation as a worthy head of the great Government department which he controls.

While joining in the general acknowledgment of the tact and resource shown by the President of the Board of Trade in saving the country from what would indeed have been a veritable calamity, it is only fitting that recognition should also be made of the wise and public-spirited moderation shown both by the railway directors and the representatives of the men. The agreement is singularly well devised and far-reaching. For each grade of men on each line a Sectional Board is to be formed, half the members of which will represent the company and the other half representing the men. These Sectional Boards will deal with general questions of hours and wages, and failing an agreement the question in dispute will be referred to a Central Conciliation Board. Such a Central Board will be formed for each Company, and in the event of the directors and the men still failing to agree, the question at issue will then be referred to a single arbitrator, who will be appointed by the Speaker of the House of Commons and the Master of the Rolls. The decision of this arbitrator will be binding on all parties. The agreement is to last for at least six years.

The admirable arrangement which has been reached in this, perhaps the greatest labour dispute of recent times, seems to us conclusively to demonstrate the wisdom of the principle of arbitration as applied to labour troubles. It is, of course, debatable as to whether the principle could be generally applied with such striking success; but in face of this proof of the soundness of arbitration as a solution of labour difficulties, it is scarcely open to doubt that much might be expected from some wisely devised and efficiently administered system of compulsory arbitration;

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CHEMICALS IN INDIA AND THE FAR EAST.

A question for the serious consideration of British manufacturers is that of the satisfactory distribution of their products in India and the Far East, and we recently pointed out the importance of this market as an outlet for British chemicals. The question has already received the attention of some wide-awake manufacturers, and stocks for years past have been held in Calcutta, Bombay, or elsewhere, to execute local orders promptly at local prices delivered; the market being canvassed in a commercial manner, according to Indian ideas.

Geographical distance alone, and its attendant drawbacks, hampers many British firms in working this part of the globe by the methods required by modern trading, and progressive firms are compelled to adapt themselves to the altered circumstances. For instance, the distance in miles between London and Bombay is 6,570, Colombo 7,000, Calcutta 8,250, Singapore 8,700, Hong-Kong 10,110, Shanghai 10,900, Yokohama 11,900, Fremantle 10,100, Adelaide 11,500, Melbourne 11,980, Sydney 12,500, etc.

Not only will the ports of Calcutta, Bombay, Karachi, and Rangoon be important centres for trade distribution, but Colombo will likewise have to be considered. The construction of the harbour at Colombo has taken thirty years to complete, at a cost of Rs.25,000,000. The harbour is 660 acres in area, and the work has been designed with a full conception of the importance of the situation, and of the prospective development in commerce along the great sea routes to Australia and the Far East. The distance in miles between Colombo and Cape Town is 4,310, Aden 2,130, Singapore 1,560, Hong Kong 3,000, Melbourne 4,700, Sydney 5,310, Wellington 6,210, and London 7,000.

The question of distribution of British chemicals of all varieties, and the allied products, machinery, etc., likewise that of inter-colonial trading, as well as the trade of China, Japan and Asiatic-Russia, presents important and complex problems to be solved by those producers who are desirous of increasing their business in proportion to the rate at which these Eastern markets are expanding. As already mentioned several commercial firms and trade organisations have established themselves at one of the Indian ports to attend to their Eastern business, instead of attempting to work it from their own country. Such a depot, even if only a modest one, managed by the manufacturer's own salaried representative, could not only attend to the distribution of goods, but could act as buyer of suitable Indian products for the British factory.

Foreign and colonial competitors are, at the moment, giving more than usual attention to the all-important question of distribution, according to local requirements, as, in addition to India's population of 300,000,000, China, with 400,000,000 inhabitants, to say nothing of other Eastern markets, opens up a huge market to cater for.

Manufacturers when sending out advertising matter, handbills, circulars, postcards, etc., for local distribution by the importer, as well as when packing in cardboard or small packages for sending by parcel post, might often remember that India leads the world in the matter of cheap postage. The inland postage rates are :—Postcards, ¼ anna (¼d.) and ½ anna (½d.) for letters weighing one tola. Inland parcels weighing not more than 440 tolas (11 lbs.) are charged at 2 annas (2d.) for every 40 tolas (1 lb.), etc. India has the cheapest postage in the entire world, and the magnitude of the undertaking can be understood when it is mentioned that the Indian Post Office carries articles from Cape Comorin to Chitral and Gilgat, and from the Mektar Coast to the borders of Siam.

NITRATE OF SODA.

The October shipments to Europe were considerably below the mid-monthly estimate, reaching only 136,336 tons, against 177,877 tons last year. On the other hand the quantity "loading" on November 1 was no less than 234,000 tons (the largest on record) compared with the 114,600 tons officially estimated three weeks ago, and 164,000 tons, the actual figure last year, when the November shipments reached 198,409 tons. Last month's European deliveries (including 6,500 tons recently arrived in Egypt !) were 55,290 tons, against 62,750 tons in 1906, and the "visible supply" (stocks and afloat) comes out at 486,260 tons, compared with 492,450 tons at this time last year. The hoped-for large reduction in the Chilian output has not materialised, the October total being advised as 172,222 tons, against 172,041 tons in the corresponding period. The stocks of manufactured nitrate have consequently further accumulated on the West Coast, reaching the unprecedented total of 600,000 tons, against 500,000 tons a twelvemonth ago and 420,000 tons on November 1, 1905. The above figures of "loadings," production, and stocks, combined with financial troubles in Chili and in Hamburg, have completely demoralised the market; prices are again distinctly lower in all positions and nominal in the absence of buyers. Nitrate for prompt shipment is offered at 8s. 4d. per quintal, f.o.b., and spring delivery in Hamburg at 11s. per cwt. Holders in Liverpool, where stocks are about 12,000 tons, compared with 7,000 tons a year ago, have at last given way to *force majeure*, and the premium on "refined" has practically disappeared. The general position will be reviewed in our next issue.

Telegraphic advices received as we go to press report that the market is very flat and lower all round.

The Board of Trade Returns issued on Thursday show that the imports during October were £57,662,116, or an increase of £3,025,054. as compared with October last year, and the exports £38,319,520., or an increase of £5,085,189. Our monthly tables and analysis will appear next week.

Society of Chemical Industry: *Liverpool Section.*—The first meeting of the Section will be held in the Theatre of the Chemical Laboratories, University, Liverpool, on Wednesday, November 13th, when a paper on "The Heat-Treatment of Copper-Zinc Alloy," by Guy D. Bengough, M.A., and O. F. Hudson, B.Sc., will be read by Mr. Guy D. Bengough.

The Bank Rate.—On Monday last, at an emergency meeting of the Directors of the Bank of England, the Bank Rate was again raised from 5½% to 6%. On Thursday, the rate was further advanced to 7%. On the same day the Bank of France raised its discount rate from 3½% to 4%, and the National Bank of Belgium advanced its rate by ½%. It is expected in Berlin that the bank rate of the Imperial Bank of Germany will be raised to 7½%.

The Manchester Gas Exhibition.—For the past fortnight or so a very comprehensive and interesting exhibition of gas appliances, etc., has been held in the St. James's Hall, Manchester. The exhibits, which have covered the whole field of lighting, heating, etc., have included the most recent developments, and we understand that the exhibition has been very successful. A special feature has been a series of lectures, designed to awaken public interest in the extended use of gas, and delivered by recognised authorities in the gas engineering profession, the subject of smoke prevention being treated very fully.

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THE PROTECTION OF RIVERS FROM OVER-POLLUTION.

DURING a recent conference of the Royal Sanitary Institute, it was pointed out that a very grave danger to public health in Ireland arose from the pollution of wells, due to leaking drains and sewers, but that under existing requirements loans for new sewers could not be sanctioned unless a complete system of purification works was provided for; the ratepayers' resources would not, however, admit of this. Nothing can be done so long as the Local Government Boards are unable to depart from the unworkable ideals of the existing Rivers Pollution Act—these are based on the misconception that no river in the United Kingdom is long enough to destroy sewage by oxidation. In a careful review of the subject, a writer in the *Manchester Guardian* points out that it is no longer the question of preventing the discharge of unpurified sewage that is the main point of river protection, but rather of safeguarding the fish life, and preventing a nuisance in the stream. The great difficulty that has to be faced is to determine to what extent sewage must be purified. Whether or not sewage matters will cause a nuisance in a river depends upon the proportion of their quality to the quantity of oxygen dissolved in the river water. So long as the latter remains in excess, the water bacteria decompose the former into mineral matters, and the water remains sweet; if the reverse is the case, the oxygen will be quickly consumed before the sewage matters are entirely decomposed. The water bacteria will then set up putrefaction in the remainder, with the result that poisonous bodies will be formed, and the river will become not only incapable of supporting fish life, but even dangerous to the public health.

The limit of pollution can easily be overstepped, since the liquid portions of town sewage require at least one-fifth of their own volume for the decomposition of their polluting organic matters into inoffensive mineral matters, and also since the amount of oxygen which water can hold in solution, when fully aerated, is extremely small—less than eight volumes during winter temperature, and six-and-a-half during summer, per 1,000 volumes of river water.

A question of even greater importance is the rate at which river and sea water can take up fresh oxygen from the air and become re-aerated. This rate will obviously vary with every river, as well as at different parts of the same river, according to its physical features. Experiments under the simplest natural conditions—a deep, sluggish, non-tidal or tidal river in calm weather—show that the rate does not exceed, on an average, one volume of oxygen per 1,000 volumes of fresh water, or one volume of oxygen per 400 volumes of sea water, in 12 hours; from this it will be seen that sea water can be polluted to a greater extent than river water.

It will be gathered that the formulating of standards must involve careful study, not only of the river concerned, but also of the sewage to be discharged into it. In consequence of their varying in each locality, such standards can only be framed and enforced by properly constituted authorities, such as those proposed by the Sewage Commission, and the hope may legitimately be expressed that a Bill embodying their recommendations will be passed through Parliament during the coming Session. There is yet another aspect of river pollution that emphasises the need of legislation. It is the protection of potable water from disease germs. Opinions differ on this subject, but both in America and Great Britain the conclusion that has been formed is that in protecting rivers from all forms of pollution the object to be aimed at is, in the first instance, to preserve them from over-pollution, and subsequently to render their waters fit for domestic use by further and complete purification, both chemically and bacteriologically. An American writer of authority on this subject says:—"With our present knowledge, at least, this would seem to be the wiser provision. We know little, unfortunately, of the viability of disease organisms in sewage and of the effect of purification treatment upon them. While the ideal conditions, and the one toward which sanitarians should ever be working, is the perfect purification of sewage from all pathogenic bacteria before discharge, it may nevertheless be better economy, with our present information, so to purify our sewage as to prevent it from seriously fouling the streams, and thoroughly to purify all waters taken from them for domestic use."

THE ROYAL COMMISSION ON SHIPPING RINGS.

THE report of evidence given before the members of the Sub-Commission appointed to inquire into the question of shipping rings in South Africa has now been issued.

Mr. Henry Heathcote Clarke, chairman of the South African Mercantile Association in London, said that he was opposed to all shipping ring methods. There were State reasons, both imperial and colonial, for objecting to the operations of the rings. The greatest of these was that such rings deprived the Imperial and Colonial Governments of a free and open freight market in which to negotiate their contracts for Government stores and material, thereby forcing them to pay higher rates than would be obtainable in an open market. He could prove that lower foreign sea freights had destroyed the colonial customs preference. Such rates were frequently 50% lower than the British ratio in 1903.

Mr. W. F. Carle, on behalf of the Natal produce shippers, said that so long as a system of rings was based on a consideration of producers' and shippers' interests, as well as those of the steamship owners, no objection need be raised. Constantly changing rates rendered business difficult and precarious. The producer would benefit by lower rates, but unless they could be relied upon they would be of no real use.

Mr. H. J. Butcher, of Butcher and Sons, general importers, said that, providing no preferential rates were quoted to favoured importers, freight rates to various parts were calculated on a logical basis, and that a quick and regular service of steamers were supplied by the shipowners at fair rates of freight, he had no objection to the shipping rings.

Mr. H. A. Lerchen, coal merchant, complained that the Union Castle Line had made a contract with the Natal Mines Association to take over the coal of that Association. The contract was entered into last year, and took effect as from January 1st to the end of 1907. The Union Castle Company took up the position of merchants, and sold coal along the coast at various ports, in addition to using it for their own steamers; such a contract had the effect of excluding the private coal merchant. The ordinary merchant had to look for freights, charter his own boat, and get special freight, but he could never get freight so low as that obtained in the case of a steamship company having its own boats, because the latter could control the freight as they wished.

A NATIONAL TESTING HOUSE.

THE chief engineer-surveyor of Lloyd's Register of Shipping recently paid visits both to the Government Testing Establishment at Gross Lichterfelde and the Barsigwerke in Upper Silesia. His report contains some very interesting observations, of which the following is an abstract.

The Government Testing Establishment is partly State-aided and partly self-supporting. It enables German manufacturers to have systematic testing carried out for commercial purposes; whilst inventors desiring research into new ideas or processes can avail themselves of the resources of the establishment. Investigations are made by the staff for public use, and the results are published periodically.

Much of the expansion of German industries—particularly cement—has been due to the assistance given by this Institute.

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In addition to a powerful testing machine for making tensile or compressive tests up to 500 tons, there are also a number of testing machines, each designed for a special purpose, and in some of which as many as three separate samples are being simultaneously tested. In some the tests are made at a normal temperature, in others the test pieces are enclosed in asbestos-lined chambers electrically heated to definite points, in order to ascertain the effect of high temperatures upon the mechanical qualities of the materials being investigated. The machines are arranged in four groups of five each, an automatic record of the stresses in each machine being made on a continuous roll of paper worked by electric mechanism.

LARGE POWER GAS ENGINES.

WRITING in the Engineering Supplement of *The Times* on the subject of gas engines, a correspondent, who has just returned from visits to a number of German works where gas power is extensively used, comments on the difference between the attitudes of English and German engineers on this point. At the recent Engineering Conference the general opinion amongst English engineers was that the gas engine could only be regarded as in the experimental stage; Germany, on the other hand, has working to-day gas engines aggregating over 400,000 h.p., without taking into account any engine of less than 500 h.p.

The manager of the Government Works at Heintz, where 650 and 1,300 B.H.P. engines worked by coke-oven gas are employed, states that, including all capital charges, depreciation, maintenance, etc., the cost per b.h.p. works out at one-tenth of a penny. At the Differdinger Iron and Steel Works the manager records a saving of £75,000. a year in his coal bill, dating from the instalment of gas engines. "As a typical example of a modern design," says the *Times* correspondent, "the 2,200 h.p. engines at the Hoesch Iron and Steel Works may be taken. These engines are of the four-cycle, double-acting type, and are notable as developing the largest power per cylinder of any engine yet made.

"The cylinders, two arranged in tandem, are 1,150mm. in diameter, and the stroke is 1,300 mm; speed of revolution, 94 per minute. The overall length is about 60 ft., and they are coupled direct to 1,600 kw. continuous current dynamos which are running in parallel. The valve cams and eccentrics are keyed to the half-speed shaft in the usual way. The mixing, admission, and exhaust valves are of the lift type, and in the case of the exhaust valves both the bodies and the valves themselves are water cooled. An experiment is now, however, being made of dispensing with the cooling of the valves with a view to simplifying the construction. The centrifugal governor acts on the tripping gear of the mixing valves regulating the supply of gas. The air supply is arranged to be constant in quantity and always in excess, so that complete combustion of the gas may be assured, combined with the advantages of constant compression. The mixing and admission valves are mounted on top of the cylinder, and the exhaust valves underneath. The charge is fired in two places simultaneously by electric spark. The cylinder and its mantle are cast in one solid piece. Great care has been bestowed not only upon the design, but also upon the composition of the metal, to ensure its withstanding the stresses accompanying the uneven distribution of temperatures. A cracked cylinder is now a rare experience, and in the few cases which have occurred is traceable to causes unconnected with any inherent weakness in the design or construction of the cylinder itself. The piston and piston-rod are, of course, water cooled, and the tandem system of rod and two pistons is supported by three slipper guides, one being placed between the cylinder. The glands are packed with metallic packing free to move radially, and showed no sign of leakage. Forced lubrication is used, and the supply of oil is liberal. Only the crank end of the frame is bolted to its foundations; the cylinders rest upon suitable seatings, and allow the necessary freedom of movement incidental to the considerable temperature changes."

The writer continues:—"The gas engine has, in England, been somewhat under a cloud. The failure of the Johannesburg installation, combined with other set-backs due to faulty design, arrangement, or construction, has done much to arrest its progress. According to Herr Schiner, a German engineer, if English engineers had received the same amount of encouragement from the iron masters as they in Germany had, the progress of the gas engine would have been the same in both countries. The transfer of designs from Germany by issuing licences to English firms has not secured all that is necessary for success; the full lessons of experience cannot be transplanted so easily, and it is probable that default in this respect accounts for the difficulties encountered in England. England's best policy is to acknowledge Germany's lead, and to make the best use of it either by importing German engineers or by installing a sufficient number of German-built engines as models."

A 150-ton blast furnace will, if the gases are used for gas-fired boilers, supply 2,000 H.P.; but, if utilised by gas engines, 6,000 H.P. can be developed, thus affording a large margin of power for blowing, transport, etc. Ironworks and like installations furnish at the present moment the most important field, but a much wider field is opening out in the demand for cheap power for driving the machinery of factories, electro-metallurgy, and the general supply of electrical energy. The arrival of the gas engine has emphasised the need for an efficient gas producer; the difficulties experienced with producers are not insuperable, being questions rather of niceties of adjustment and regulation than of the removal of any radical defects.

The writer concludes that the gas engine, though a success, cannot by any means be regarded as having reached finality. Opinion amongst German engineers is divided as to the merits of the four and two-cycle engine. The former has a slight advantage as regards efficiency and uniform running; the latter, with its single cylinder, might be expected to be more compact, but in practice it is not so, owing to its increased length of stroke, and there is no saving in material. The greater regularity of speed is, in the case of the four-cycle engine, secured by the governor acting directly on the charge as it is admitted to the cylinder; with the two-cycle type the governor acts on the charge as it enters the pumps, causing thereby an element of delay to be introduced. By the use of "scavenging"—a method of removing the inert products of combustion—the capacity of an engine can be increased 20%. There is not much gain in efficiency, but the first cost for a given power is substantially reduced.

NITRATE STATISTICS.—The Permanent Nitrate Committee, in their Public Statistical Circular for November, state the shipments of nitrate of soda as follows:—(1) Total exports to Europe, October, 2,999,400. quintals (2) Imports, Europe, October, 84,790 tons. (3) Deliveries, Europe, October, 55,290 tons. (4) Visible supply, Europe, 1st November, stocks and afloat, 486,260 tons.

THE CHEMICAL TRADE DIRECTORY.—We regret that inadvertently Messrs. May and Baker, Ltd., of Battersea, London, appear as merchants of Acetate of Amyl in the Classified List of our Chemical Trade Directory, instead of being shown as manufacturers. We were not aware that the product was made at all in this country, at least not on an industrial scale, but having availed ourselves of the firm's invitation to see their plant, we are pleased to record the fact that there is at least one considerable maker in Great Britain of what is generally considered to be exclusively an imported article.

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THE FRANCO-BRITISH EXHIBITION, 1908.

ARRANGEMENTS for the Franco-British Exhibition of 1908 are being rapidly proceeded with, and it is satisfactory to hear that considerable progress has been made during the summer months. There is now no doubt that the Exhibition which opens in May next will be upon a larger scale than any previously held in the United Kingdom. The site upon which it will be held at Shepherd's Bush is 140 acres in extent, and is specially suited to the needs of a great Exhibition. The grounds are less than fifteen minutes' ride from Oxford Circus and Regent-street, and twenty minutes' from Trafalgar-square and Charing Cross, while access by railway, motor omnibus, and electric car will be very convenient for visitors. The London County Council have arranged to connect their North and South London Systems by constructing a line past the Exhibition grounds, and this they have arranged to have completed in good time for the opening.

Remarkable progress has been made with the many magnificent buildings which are being erected to house the exhibits. The first sod of the ground was cut at the commencement of this year, and now all the great mass of steel frames are completed, the concrete floors and walls are being put in, the various lakes and canals have been formed, the roads made up, and the numerous gardens commenced. The size of the palaces may be gauged by the framework which is now in position. Each is on a huge scale, and from what is seen of the decoration which is now proceeding, it will be as artistic as the dimensions of the various buildings are large. No timber has been used in the construction, and the whole Exhibition will be absolutel fireproof. To each building is assigned a special class of exhibits. In some cases the French display will occupy one-half, and in another it will rest in a speclal palace. The French Agriculture Committee have alone taken 40,000 sq. ft. and the numerous o her French Committees have also taken large areas.

The Colonies are to have a special section, and it is already certain that our overseas possessions of the Empire will be represented upon a larger and more comprehensive scale than at any previous Exhibition. Canada has secured an area of 120,000 square feet, and the approximate cost of the Canadian palace will be £65,000. Australia has taken a space of 60,000 sq. ft., for a similar purpose, and will expend £40,000. New Zealand and the Crown Colonies have likewise taken space upon a similarly extensive scale. The Indian Government have also made a substantial grant towards the expenses of their section. With regard to the French Colonies a special association has been formed to arrange for their representation. Collectively they have secured an area of 275,000 square feet, and upon this will be erected buildings typical of the countries represented. The displays of the Colonies will be arranged along both sides of the Colonial Avenue in the form of a huge horseshoe, the British occupying one side and the French the other. This will undoubtedly form one of the most interesting and instructive portions of the Exhibition.

A special group will be devoted to chemical industries, and Mr. Alfred Mond, M.P., is president over the Committee which is arranging the display. Every branch of the trade will be represented, from applied chemistry and pharmacy to the manufacture of paper, tobacco, and matches, and from leather and skins to perfumery. The exhibit will be housed in a magnificent building close to the entrance fronting the first of a number of handsome courts, while the corresponding French collection will be found in an adjacant hall, so that a comparison of the industries of the two nations will be possible.

Bazaars, side-shows, and other features of the kind have been rigorously done away with, and the whole undertaking gives promise of an Exhibition in which British traders in all parts of the world will have the best opportunity ever offered of showing the excellence of their products.

A novel feature will be the establishment of a series of Commercial Bureaux, in which exhibitors and visitors will be brought together, so that those taking part in the Exhibition may derive the greatest possible advantage, and those visiting the Exhibition for business purposes will be able to obtain all the information they require at a minimum of time and trouble. Local committees have been organised throughout the United Kingdom to facilitate the collection of suitable exhibits of which the various districts make a special feature.

The whole of the financial arrangements are in the hands of a Finance Committee, at the head of which is Lord Welby, and are secured by guarantee. The whole of the profits are to be devoted to some national object, to be decided upon by the representatives of both the British and French Governments. Thus the Exhibition is in a true sense a national undertaking.

If any proof were required of the enthusiasm with which the Exhibition has been received—apart altogether from the material support given in the way of application for space—it would be found in the list of prominent men who are actively co-operating to ensure its success. The Duke of Argyll is Honorary President, and the Earl of Derby President, while six Cabinet Ministers have accepted office as Honorary Presidents of the various sections:—the Earl of Elgin, Earl Carrington, Mr. Lloyd-George, Mr. McKenna, Mr. Gladstone, and Mr. Sinclair,—the Earl of Minto, Viceroy of India, occupying a similar position. The Vice-Presidents include many of the best-known names in Great Britain, while of the Executive Committee are Viscount Selby (Chairman), the Duke of Devonshire, Earl Cadogan, Lord Strathcona, Lord Alverstone, Lord Blyth, the Earl of Jersey, Lord Castletown, Lord Desborough, Lord Weardale, Lord Welby, Mr. Charles Charleton, Mr. Frank Debenham, the Rt. Hon. Ailwyn Fellowes, Sir William Holland, Mr. Imre Kiralfy, the Hon. Charles Napier Lawrence, Sir Norman Lockyer, Sir William Mather, Mr. C. Freeman Murray, Sir E. J. Poynter, Sir Isidore Spielmann, the Hon. Arthur Stanley, Sir Howard Vincent, Sir Wm. H. White, and Sir C. Rivers Wilson. Lord Blyth is at the head of the Orgaising Committee, and Mr. Imre Kiralfy has been appointed Commissioner-General. Each of the many groups is being arranged by a separate committee formed of experts in the particular branches of industry to which they are to be devoted, and the names of the chairmen alone form an imposing list. The list is as follows:—Education, Sir William Mather; Science, Sir Norman Lockyer; Fine Arts, Sir E. J. Poynter; Liberal Arts, Sir H. E. J. Jerningham; Engineering and Shipping, Sir Wm. H. White; Constructional Engineering, Sir Alexander Binnie; Mechanical Engineering, T. Hurry Riches, Esq.; Gas Engineering, Henry E. Jones, Esq.; Electrical Engineering, Henry E. Jones, Esq.; Electrical Engineering, Dr. R. T. Glazebrook; Mining Engineering, Mr. Maurice Deacon; Metallurgical Engineering, Sir Charles McLaren, Bart.; Iron and Steel, Sir Hugh Bell, Bart.; Other Metals, Prof. W. Gowland; Shipbuilding and Marine Enigneering, Dr. Francis Elgar; Shipping, Mr. James Dixon; Transportation, Mr. H. Cosmo Bonsor; Surface Transport, Sir Clifton Robinson; Agriculture, Lord Blyth; Viticulture, Mr. Robert A. Yerburgh; Horticulture and Arboriculture, Lt.-Col. D. Prain; Alimentation, the Earl of Bessborough; Decoration and Furnishing, the Earl o Plymouth; Textiles, Mr. Frank Debenham; Chemical Industries, Alfred Mond, Esq.; Various Industries, Sir Howard Vincent; Social Economy, Mr. H. Percy Harris; Colonial, the Hon. Sir John A. Cockburn; Indian, Sir William Lee-Warner; Ceylon, Sir Thomas Lipton; Woman's Work, the Countess of Jersey (President) and the Duchess of Sutherland (Vice-President); Sports and Physical Culture, Lord Desborough; and Congress and Conference, Lord Weardale.

The entire movement has been taken up so strongly on both sides of the Channel that it has already been found necessary several times to enlarge the original area. Even this has not been found of sufficient size, and additions, in the form of

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extensions are consequently being made to all the main buildings.

Allotments will shortly take place, so that applications for space should be sent in by the 15th of this month. Judging by the names of the firms who have already taken space, the Exhibition will be the most complete representation of British manufactures and industries ever brought together, and will be a practical demonstration to the world of progress made during the last half-a-century in all departments of trade and commercial developments throughout the British Empire.

THE DEODORISATION OF FISH OILS.

By Josef Hankam (communicated by H. Wiskemann).

(*Concluded from p.* 380.)

THE progress made during the last few years in freeing cooking fats (more especially cocoa-nut cooking fats) from undesirable odour, has given many useful hints. The employment of mechanical methods rendered it possible to attain the desired object in a more satisfactory way than had been done by chemical agents alone. At first, steaming the fish-oils was tried, but the results obtained were but slight, as I found myself by experiments made on a rather large scale and in the most varying combinations. The moist steam was not able to carry off the volatile smelling substances, and even the simultaneous use of the vacuum proved insufficient. By passing a stream of air for several hours through the heated fat—an operation which I employ in the case of fish-oils for the production of an artificial degras, "moellon"—I succeeded only in eliminating a small portion of the smelling substances; after some time, however, the characteristic odour of fish-oil re-appeared in undiminished intensity.

The use of superheated steam, first resorted to in the manufacture of cocoa-nut cooking fats, at last opened up a way for the solution of the problem, and this method enables one to approximately attain the desired end. I advisedly say approximately, for even by means of superheated steam properly used in the light of experience, the smelling substances cannot be thoroughly eliminated; a slight odour always remains. But such slight odour (as I specially observed in several soap-works in Germany), though perceptible, is not disagreeably so in soap made from such deodorised fish oils.

Superheated steam is used for the elimination of smell from fats in general according to greatly different (and some of them patented) methods. So *Emilien Rocca*, of Marseilles,* has constructed an apparatus—resembling the column apparatus used in alcohol distilleries—specially for the purpose of deodorising inferior cocoa-nut oils (Java). This apparatus consists of a cylinder (provided with plates), in which fat and steam act upon each other in an opposite direction; the fat, for instance, runs from an upper reservoir into the column apparatus, passes each plate, and from the opposite direction the superheated steam enters the apparatus, carries away with it, on its passage, as far as possible the odorous volatile constituents, and, saturated with these, leaves the cylinder and passes through a series of condensing vessels in which the odorous substances are precipitated. As is seen from the foregoing, Rocca's apparatus acts on the principle of the counter-current, and for working on a large scale a combination of several columns is provided. As far as I know, this apparatus is not yet in use in German factories. Owing to the more or less complicated arrangement of the apparatus I was not in a position to make experiments in respect of the case immediately in question; at all events some result may presumably be obtainable with this apparatus.

According to *Culmann*† it is possible—by subjecting oils and fats to the action of superheated steam, or by boiling them with a diluted solution of alum—to precipitate the glue-like substances they contain, and to eliminate a portion of the free volatile fatty acids. It is known, for example, that palm-oil is subjected to the action of superheated steam at 260° C. in order to purify it. In the case of fish-oil, however, the use of steam and a solution of alum is, according to Culmann, hardly possible, because on account of its peculiar composition it would be completely destroyed. At lower temperatures (110° to 120° C.), however, persistent emulsions form and prevent purification. Culmann proceeds, therefore, in the following way. According to his observations fish-oil is thoroughly purified, and the forming of any emulsion is avoided by the simultaneous action of hot saturated solutions of alum or aluminium sulphate and of superheated steam. Only the lower grade fatty acids are split up. The above-mentioned method of Culmann rests directly on the method of Lake‡, who was the first to employ alum together with superheated steam for deodorising.

Another method, in which superheated steam is used, is *H. H. Kaalund's* (of Aalborg)§ method. The oleine is distilled with superheated steam and exposed at the same time to the action of a stream of carbonic acid. Carbonic acid has a destructive effect on the putrefactive alkaloids which form phonicin, and a pure, odourless oleine is obtained.

Much attention is claimed by *P. Pick's*** method, elaborated especially for the purifying and conserving of fats and oils. To some extent, however, it is also applicable for the deodorising of fish-oils and fish-fats. Pick subjects oils and fats to the action of hot, indifferent gases, CO_2 for example, an operation by which the fats and oils are freed from water and completely conserved, while the albuminous substances coagulate.

Having made mention of some of the apparatus and methods devised for the case in question, I would in conclusion (as far as the scope of this article will admit) give a few hints regarding deodorisation of fish-oils and fish-fats on the basis of my extended observations. I consider it necessary for attaining the desired end that the fish-oils whose deodorisation is aimed at should, as a preliminary, be treated with concentrated sulphuric acid. For this purpose the oils must be properly dried, and then, by means of a not too large quantity of concentrated acid, be freed to the greatest possible extent from their glue-like and albuminous constituents. It is, of course, of very great importance that the oil and acid should be thoroughly and intimately mixed, as is always the case in acidification, and to meet this special case, I have constructed a very simple but very suitable apparatus. The preliminary treatment with acid does not aim at splitting up the fat. The splitting-up proper of the smelling fish-oil fats, which, in my opinion, is absolutely necessary†† for successful deodorisation, takes place in an autoclave by means of magnesia under a pressure of 9 to 10 atmospheres (140 to 150 lbs.) in the usual way. Not till then are the resulting fatty acids (whose smell has now greatly decreased) subjected to the process of deodorisation proper. For this purpose I use superheated steam, to the action of which I subject the fish-oil fatty acids for some time at a suitable temperature. Simultaneously with superheated steam I make use of a vacuum, and, especially for the purpose of deodorising fish-oils and fish-fats, I have constructed a very suitable apparatus which, as has been shown by my practical trials, made on a large scale, ensures the best result at the lowest cost.

The method requires the splitting-up of the fish-oils, and for this reason it may on the mere face of it seem to entail too heavy expense; but this consideration is counterbalanced, in the first place, by the quantity of glycerine that is obtained, and, secondly, the resulting fish-oil fatty acids can be worked up in the manufacture of soap by saponification with carbonates of alkalis at far less expense than the neutral fats by means of caustic alkalis. The greatest advantage, however, consists in that the fatty acids can be rendered almost odourless.

If it is a question, as happens to be the case with very dark descriptions of whale-oil, of producing a light fatty acid, for which purpose, therefore, distillation would be necessary, it is the finished distillate which should be subjected to deodorisation.

Tin Mining in England.—The American, Consul at Plymouth writing on the renewed mining activity in Cornwall, observes that there is still an enormous amount of tin to be extracted from the Cornish hills. Many old mines were closed not for lack of tin, but because the market was being flooded with foreign tin, which was then produced at a price with which the deep and costly Cornish mines could not compete. This foreign supply has now greatly diminished, and the world again turns for its supply to Cornwall. Old mines are being reopened and new claims started. Reliable judges affirm that Cornish mining has a great future, and that the district is entering upon an era or profitable enterprise.

* German Imp. Pat. No. 127,492.
† German Imp. Pat. No. 110,791.
‡ English Patent No. 2,100.
§ Swedish Patent No. 11,958 of 14th Aug., 1899. See also "Chemiker Zeitung" of 1901.
** German Imp Pat. No. 166 866.
†† For some time I have repeatedly had (in Germany) the opportunity of observing in soap works, where the fish-oil fat is split up, that after leaving the autoclave their smell had decreased considerably.

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Reports of Companies.

PAN DE AZUCAR NITRATE COMPANY.

The report for the year ended June 30 states that the profit and loss account shows a gross profit of £40,303., from which have to be deducted exhaustion of raw material, depreciation of plant, London charges, income tax, etc., leaving a balance of net profit of £24,922. Adding to this the balance carried forward from 1906, and deducting the interim dividend paid in June, there remains a balance of £22,222. The directors recommend a final dividend of 6%, tax free (making 12% for the year), they place £10,000. to the reserve fund, write off the further outlay on extension and improvement of plant referred to below, and carry forward £3,799. Debentures to the amount of £40,000., the outstanding balance at June 30, 1906, were paid off on Sept. 30 following. In the year under review profit has been taken on 410,750 quintals nitrate, as compared with 424,250 quintals in the previous year. The extensions and improvement in plant referred to in the last report were completed in the early part of 1907, at a total cost of £6,163., of which sum £4,340. was written off last year, and it is now proposed to write off the balance of £1,823.

COLORADO NITRATE COMPANY.

The report for the year ended June 30 states that the profit and loss account shows a profit of £127,657. After adding balance from previous account, and transferring to depreciation account £6,338., to debenture redemption account £12,000., and to debenture sinking fund £38,000., the directors propose to place £10,000. to depreciation account, in respect of the old property account, to set aside a further sum of £38,000. as provision for redemption of debentures (in excess of the two half-yearly drawings of £6,000. each), and recommend a dividend of 20s. per share, free of income tax, making a total dividend of 40s. per share for the year.

LIVERPOOL NITRATE COMPANY.

The report of the directors for the year ended June 30 states that the profit and loss account shows a balance of £74,974. After adding balance from previous account and transferring to reserve fund £9,000., and to depreciation account £22,000., the directors propose to place £6,000., to the reserve fund, raising it to £50,000., and recommend a dividend of 32s. 6d. per share, free of income tax, making a total distribution of 60s. per share for the year.

MALACCA RUBBER PLANTATIONS, LTD.

At the meeting of the Malacca Rubber Plantations, Ltd., last week, the Chairman said that the Asahan Estate when taken over by the company was managed by Chinese and run on Chinese lines, but it was not continued on these lines, and the estate was now under European management. An arrangement had been made with the original vendors of this estate to acquire the Kesang Rim Estate at no cost to the Company, and only conditional on their granting a loan of £5,000. for two years at a low rate of interest. The area owned by the Company now totalled over 13,000 acres, of which 6,000 were already under rubber, and, according to latest advices, they expected to have by December 31 about 6,600 acres under rubber. They thought that a conservative estimate should give them a million trees.

AMELIA NITRATE CO., LTD.

At the meeting of shareholders on Wednesday last, Mr. Lowe, who presided, said that in spite of higher-priced labour and dearer provisions, due to the earthquake, the net profit amounted to £48,939. The directors proposed to appropriate £23,000. for the final redemption of the debentures, and £24,000. in payment of 48% on account of accrued interest on the preference shares. As to the prospects of the nitrate industry, good results seemed promising. There was no danger of over-production, and though the price was not now so high, he did not favour the extreme prices that had lately prevailed. The labour troubles were not so acute as they had been, although since higher wages had been paid to the natives considerably less work was done. At a special meeting which followed it was agreed to purchase new grounds in the Province of Antofagasta, and to increase the capital of the company to £206,000.

THE INDIAN INDIGO CROP.

THE first General Memorandum on the indigo crop of the season 1907-08 has now been issued by the Commercial Intelligence Department of India. The provinces dealt with in this memorandum contain 98% of the total area under indigo in British India, calculated on the average of the five years ending 1905-06. The average area under the crop in that period is 617,000 acres; but in 1906-07 the total acreage reported at the corresponding period was only 335,400, and the figures for 1907-08 now reported are 328,500, thus representing a decrease of 2%. The condition of the crop is reported to be generally from fair to good; but some damage has been done by insects and irregular rainfall in parts of Bengal, while want of rain is being felt in parts of Madras.

Estimate of the Area under Indigo in October.

Province.	1907-08.	1906-07.	1905-06.
Bengal	153,000	137,800	170,700
Madras	76,600	94,900	51,500
United Provinces	55,000	40,400	40,700
Panjab	43,900	62,300	67,500
Total	328,500	335,400	330,400

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total indigo area of British India is ordinarily cultivated in that province:—

Bengal (37.6%).—The area sown is reported to be 153,000 acres against 137,800 acres of last year—an increase of 11%. Weather conditions were generally favourable in the important indigo growing districts of North Bihar. Some damage was, however, done by caterpillars in Saran in the beginning of the season; and in Purnea the crop suffered from deficient rain in May and June, and from excessive rain in July; locusts also did some damage. The average outturn per acre is estimated to be 76% of the normal, as compared with 79% last year.

Madras (31%) reports the total area sown in *raiyatwari* villages up to the end of August to be 76,600 acres, which is 19% less than the area at this date last year. The decrease is attributed to less demand and to want of seasonable rainfall in Nellore and Cuddapah. The crop is reported to be in fair to good condition, but rain is required in some places.

United Provinces (19.6%).—The total area sown is roughly estimated at about 55,000 acres, compared with 40,400 acres last year—an increase of 36%, attributed to good prices realised last year. The crop germinated freely, and water for irrigation was generally sufficient. No injury from insects or hot winds has been reported except from some of the eastern districts. The rains, though unusually late, have been favourable to indigo, and prospects are generally good.

Panjab (9.8%) estimates the area sown to be 43,900 acres, compared with 62,300 acres finally ascertained last year—a decrease of 29%, attributed to the late flowing of the canals for irrigation in the Muzaffargarh and Dera Ghazi Khan districts. The general condition of the crop is normal.

Briseis Tin Miles.—The directors have declared a further interim dividend (number eight) of 9d. per share, free of income tax.

Coal in Chile.—It is announced that a 7-foot vein of a fine quality of Coal has been discovered near Valdivia, Chile, at a depth of 100 feet. It is the thickest vein yet discovered, the one at Lebu being from 4 to 6 feet, and the one at Lota from 4 to 5 feet. Steps are being taken to develop the mine.

Chilean Nitrate.—From Valparaiso U.S. Consul Lupton reports as follows on the Chilean nitrate production. The exportation in 1906 of 17,279,651 metric quintals (of 220.46 pounds each), reduced to the unit of the fields, gives 37,564,460 Spanish quintals (101.6 pounds per quintal), valued at $84,520,035 United States gold. The cost of exploitation per Spanish quintal delivered on board and includingthe Government tax of 28 English pence per quintal, as given by the different countries, varies from 4.4 to 5.17 pesos. As the product is worth about 9 pesos per quintal, this shows an average profit of nearly 50%. La Asociacion Salitrera de Propaganda, which regulates the exportation and the quota of each company, when arranging for the year ending March 31, 1907, took into consideration 135 oficinas, with an estimated capacity of 76,000,000 Spanish quintals, and authorised an exportation of 43,000,000 quintals.

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ALUM MANUFACTURE.

THE following is the text of the Complete Specification, No. 28,581, of December 14, 1906, granted to Erich Strohbach, of Niedersedlitz-Dresden, Germany, for improved manufacture of sodium alum, potassium alum, or ammonium alum free from iron and in small crystals.

The commercial manufacture of sodium alum, potassium alum, and ammonium alum has hitherto been conducted on one or other of the following quite different lines :—

Whereas the manufacture of potassium alum and ammonium alum proceeds smoothly when the corresponding sulphate is dissolved in a hot solution of aluminium sulphate, and the solution is crystallised by gradual cooling in special crystallising vats, the manufacture of sodium alum by this process is not satisfactory. The formation of a white, amorphous, pasty mass hinders the direct subsequent treatment of the product. It has frequently been attempted to set aside this difficulty, on the one hand by suitable treatment of the amorphous modification, and on the other hand by avoiding the formation of this modification.

According to the present invention sodium alum, potassium alum and ammonium alum are made directly of surprising purity and without passing through an amorphous condition. In contradistinction to the known processes, temperatures of 25-50° C. and an excess of alkali sulphate are necessary, according to the present invention, for directly obtaining a sodium alum which is free from iron, non-efflorescent, and in small crystals ; the same conditions may obtain for the production of pure potassium alum and ammonium alum in small crystals. In the case of these salts, however, the aluminium sulphate may be in excess ; thus the aluminium sulphate may be used in solution, and the solid alkali sulphate stirred into the solution, or the alkali sulphate may be dissolved and the solid aluminium sulphate stirred into the solution. In either case one of the two components must be in excess, it being of the essence of the invention that one of the constituent salts should be present in excess to exert, as it were, a salting-out action. In contradistinction to the hitherto generally adopted opinion that non-efflorescent sodium alum can be obtained only from neutral aluminium sulphate solution as free as possible from iron, I have found that non-efflorescent sodium alum may be obtained in presence of an excess of alkali sulphate and in presence of free acid ; that the presence of free acid in the production of alkali alums free from iron or from aluminium sulphate solutions containing much iron is advantageous ; that free acids, contrary to published statements, affect the yield only in minor degree ; that, on the other hand, increasing the acid content of the aluminium sulphate solution by 1-5% without the protective influence of an excess of alkali sulphate diminishes the yield.

Furthermore, my investigations have revealed the comparatively sparing solubility of sodium alum in an acid solution of sodium sulphate.

The process for the manufacture of sodium alum, according to the invention, is conducted as follows :—Commercial aluminium sulphate solution containing much iron and of a specific gravity not lower than 1.250 at 15° C. is mixed with 1-5% of its weight of concentrated sulphuric acid, according to the content of iron, and is heated to 25-50° C. Into the clear filtered liquor is introduced finely ground calcined Glauber's salt of commercial purity, while stirring, in such proportion that in addition to that theoretically required to produce the alum, there is added sufficient for simultaneously producing a nearly concentrated sodium sulphate solution. According to the concentration of the aluminium sulphate liquor, therefore, the proportion of sodium sulphate used varies.

The formation of the alum begins immediately, accompanied by the rise of temperature, and is soon completed if stirring be continuous. By centrifugal action the magma of alum thus produced is made to yield a brilliantly white alum meal consisting of small crystals which are nearly free from iron and chlorine, and have a constant content of 11.20% of Al_2O_3. The crystals are dried in any suitable manner at a temperature below 50° C., at which temperature they do not effloresce, and are permanent.

For the manufacture of sodium alum according to this process, sodium bisulphate may be used if the aluminium sulphate liquor is concentrated.

The process may also be carried out by introducing into a concentrated solution of sodium sulphate, made acid by adding the aforesaid proportion of concentrated sulphuric acid, solid aluminium sulphate containing iron, the temperature of the liquid being 25-50° C., and stirring being conducted the while ; care must be taken, however, that the alkali sulphate remains in excess.

In order to obtain chemically pure sodium alum of like form from the small crystals of sodium alum, the latter is re-crystallised.

The known process for crystallisation is not direct ; in the first place alum paste is obtained by cooling a solution of sodium alum which has been sufficiently evaporated, and this paste is then allowed to stand for two and a half days in a thin layer in order to obtain the alum crystals.

By applying the process next to be described, sodium alum in small crystals is obtained directly from hot concentrated sodium alum solution. The sodium alum is dissolved by stirring it with a proportion of water insufficient to dissolve it at 30° C., and then gradually heating the mixture until dissolution is complete. The liquid is then concentrated to about two-thirds of its volume by evaporation, and after filtration is cooled, in an apparatus having a large cooling surface, as quickly as possible to 30-40° C. By now setting the super-cooled liquor into continuous movement and inoculating it with previously prepared pure sodium alum crystals, small crystals of sodium alum quickly separate in a pure condition. The formation of the amorphous paste hitherto produced is not to be feared when this mode of operation is adopted.

Potassium alum and ammonium alum in small crystals may be manufactured in manner analogous to that first described, only in this case the initial temperature may be between 25 and 50° C. This is the average temperature of the liquor during working. Instead of the excess of alkali sulphate, there may be used in this case an excess of aluminium sulphate amounting to 20-30%. At longest the conversion is complete in five hours if the magma is well stirred.

Instead of an alkali sulphate, an alkali double sulphate may be used.

Potassium alum and ammonium alum may also be obtained in small crystals by introducing solid aluminium sulphate into a feebly acid concentrated solution of the corresponding alkali sulphate.

As compared with the customary process, that is to say the dissolution of the alkali sulphate at the boiling temperature and crystallisation in special crystallising vats, this new process presents considerable advantage in the greater purity of the alums produced.

The duration of the crystallising process is now a few hours instead of the days occupied in the earlier process. Moreover, the loss of finished goods is avoided, which in the old process was inevitable owing to the separation of coarse crystals on the walls and the bottom of the vat. Besides these advantages with respect to time and saving of material, the small crystalline form of the product is of considerable importance owing to the comparative difficulty which exists in dissolving potassium and ammonium alums. Moreover, the yield of alum is good.

The claims of the specification are :—

(1.) The herein described manufacture of sodium alum, potassium alum, or ammonium alum, free from iron and in small crystals, by stirring into a solution of aluminium sulphate, preferably feebly acid, having a specific gravity of 1.25, and at a temperature of 25-50° C., an excess of a solid powdered alkali sulphate, bi-sulphate or alkali double sulphate, and separating from the mother liquor the magma of small alum crystals thus produced at a temperature approximating to that at which sodium sulphate is most soluble.

(2.) The modification wherein solid aluminium sulphate is stirred into a solution of an alkali sulphate, bi-sulphate or alkali double sulphate, preferably feebly acid, in such manner that the alkali sulphate or the like remains in excess.

(3.) The modification wherein, in making potassium alum or ammonium alum free from iron and in small crystals, the aluminium sulphate is used in excess.

(4.) As a further step in the manufacture of sodium alum free from iron, and in small crystals, referred to in Claim 1, purifying the sodium alum by re-dissolving it and strongly super-cooling a hot concentrated solution of the alum and keeping the solution in movement until crystallisation is complete.

Russian Mercury Prices.—The *Torg. Prom. Gazeta*, in commenting on the rise in prices for mercury, observes that the Russian market has been quick to take advantage of it, and shows that the latest advices put the prices at a rise from 82 to 95 roubles per bottle up to 89 to 92r. per bottle as one week's improvement.

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THE NEW PATENTS ACT.

PART I.—(*Continued from page* 398.)

Crown.

29.—A patent shall have to all intents the like effect as against His Majesty the King as it has against a subject:

Provided that any Government department may, by themselves, their agents, contractors, or others, at any time after the application, use the invention for the services of the Crown on such terms as may, either before or after the use thereof, be agreed on, with the approval of the Treasury, between the department and the patentee, or, in default of agreement, as may be settled by the Treasury after hearing all parties interested.

30.—(1.) The inventor of any improvement in instruments or munitions of war may (either for or without valuable consideration) assign to the Secretary of State for War or the Admiralty on behalf of His Majesty all the benefit of the invention and of any patent obtained or to be obtained for the invention; and the Secretary of State or the Admiralty may be a party to the assignment.

(2.) The assignment shall effectually vest the benefit of the invention and patent in the Secretary of State or the Admiralty on behalf of His Majesty, and all covenants and agreements therein contained for keeping the invention secret and otherwise shall be valid and effectual (notwithstanding any want of valuable consideration), and may be enforced accordingly by the Secretary of State or the Admiralty.

(3.) Where any such assignment has been made, the Secretary of State or the Admiralty may at any time before the publication of the complete specification certify to the comptroller that, in the interest of the public service, the particulars of the invention and of the manner in which it is to be performed should be kept secret.

(4.) If the Secretary of State or the Admiralty so certify the application and specifications, with the drawings (if any), and any amendment of the complete specification, and any copies of such documents and drawings shall, instead of being left in the ordinary manner at the Patent Office, be delivered to the comptroller in a packet sealed by authority of the Secretary of State or the Admiralty.

(5.) The packet shall, until the expiration of the term during which a patent for the invention may be in force, be kept sealed by the comptroller, and shall not be opened save under the authority of an order of the Secretary of State or the Admiralty or of the law officer.

(6.) The sealed packet shall be delivered at any time during the continuance of the patent to any person authorised by the Secretary of State or the Admiralty to receive it, and shall if returned to the comptroller be again kept sealed by him.

(7.) On the expiration of the term of the patent, the sealed packet shall be delivered to the Secretary of State or the Admiralty.

(8.) Where the Secretary of State or the Admiralty certify as aforesaid, after an application for a patent has been left at the Patent Office, but before the publication of the complete specification, the application and specifications, with the drawings (if any), shall be forthwith placed in a packet sealed by authority of the comptroller, and the packet shall be subject to the foregoing provisions respecting a packet sealed by authority of the Secretary of State or the Admiralty.

(9.) No proceeding, by petition or otherwise, shall lie for revocation of a patent granted for an invention in relation to which a certificate has been given by the Secretary of State or the Admiralty, as aforesaid.

(10.) No copy of any specification or other document or drawing, by this section required to be placed in a sealed packet, shall in any manner whatever be published or open to the inspection of the public, but, save as in this section otherwise directed, the provisions of this Act shall apply in respect of any such invention and patent as aforesaid.

(11.) The Secretary of State or the Admiralty may at any time waive the benefit of this section with respect to any particular invention, and the specifications, documents, and drawings shall be thenceforth kept and dealt with in the ordinary way.

(12.) The communication of any invention for any improvement in instruments or munitions of war to the Secretary of State or the Admiralty, or to any person or persons authorised by the Secretary of State or the Admiralty to investigate the same or the merits thereof, shall not, nor shall anything done for the purposes of the investigation, be deemed use or publication of such invention so as to prejudice the grant or validity of any patent for the same,

(13.) Rules may be made under this Act, after consultation with the Secretary of State and the Admiralty, for the purpose of ensuring secrecy with respect to patents to which this section applies, and those rules may modify any of the provisions of this Act in their applications to such patents as aforesaid so far as may appear necessary for the purpose aforesaid.

31.—(1.) In an action or proceeding for infringement or revocation of a patent, the court may, if it think fit, and shall on the request of either of the parties to the proceeding, call in the aid of an assessor specially qualified, and try the case wholly or partially with his assistance; the action shall be tried without a jury unless the court otherwise directs.

(2.) The Court of Appeal may, if they think fit, in any proceeding before them call in the aid of an assessor as aforesaid.

(3.) The remuneration, if any, to be paid to an assessor under this section shall be determined by the court or the Court of Appeal, as the case may be, and be paid as part of the expenses of the execution of this Act.

32.—A defendant in an action for infringement of a patent, if entitled to present a petition to the court for the revocation of the patent, may, without presenting such a petition, apply in accordance with the rules of the Supreme Court by way of counterclaim in the action for the revocation of the patent.

33.—A patentee shall not be entitled to recover any damages in respect of any infringement of a patent granted after the commencement of this Act from any defendant who proves that at the date of the infringement he was not aware, nor had reasonable means of making himself aware, of the existence of the patent, and the marking of an article with the word "patent," "patented," or any word or words expressing or implying that a patent has been obtained for the article, stamped, engraved, impressed on, or otherwise applied to rhe article, shall not be deemed to consrtute notice of the existence of rhe patent unless the word or words are accompanied by the year and number of the patent:

Provided that nothing in this section shall affect any proceedings for an injunction.

34.—In an action for infringement of a patent, the court may on the application of either party make such order for an injunction inspection or account, and impose such terms and give such directions respecting the same and the proceedings thereon as the court may see fit.

35.—In an action for infringement of a patent, the court may certify that the validity of the patent came in question; and if the court so certifies, then in any subsequent action for infringement the plaintiff in that action on obtaining a final order or judgment in his favour shall, unless the court trying the action otherwise direct, have his full costs, charges, and expenses as between solicitor and client.

36.—Where any person claiming to be the patentee of an invention, by circulars, advertisementr, or otherwise, threatens any other person with any legal proceedings or liability in respect of any alleged infringement of the patent, any person aggrieved thereby may bring an action against him, and may obtain an injunction against the continuance of such threats, and may recover such damage (if any) as he has sustained thereby, if the alleged infringement to which the threats related was not in fact an infringement of any legal rights of the person making such threats:

Provided that this section shall not apply if the person making such threats with due diligence commences and prosecutes an action for infringement of his patent.

(*To be continued,*)

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

S. T.—The point you raise has been dealt with on various occasions.

F. W. A.—Thanks for documents. We should be glad to have the blocks, as promised.

J. B., LTD.—An article dealing with the subject you mention, appeared some time ago in the *Journal*.

S. B.—We do not know the address of the company referred to, but you would be able to obtain this on application to Somerset House.

E. C. AND SONS.—The entry of creosote in our London exports is correctly abstracted from the Customs returns. We are verifying this shipment for your satisfaction.

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Continental Notes.

In the *Chemiker-Zeitung* for October 16, Dr. C. R. Böhm continues his paper on the electric conductivity of carbides, and the preparation of glow-lamps with metallic filaments. The elements considered in this instalment include thorium, titanium, uranium, tungsten, chromium, nickel, silicon, platinum, aluminium, magnesium, and the alkaline earths. Of the many different sorts of lamp that have been prepared very few appear to possess any technical importance. Another section of the same paper appears in the issue of October 19, in which Böhm summarises all the data he has collected. The powerful emission of light from the alkaline earths and magnesia has been long known, and the attempt has frequently been made to use them in arc lamps, the most successful application being in the Jablokoff candle. The endeavour to meet the competition of the incandescent gas lamp has, however, led to some very important developments on the part of Auer and others. These new glow lamps consist essentially of a mixture of conductors of the first and second orders. A metallic conductor is necessary in order to make the filament conduct in the cold, but when it becomes hot the electrolytic conductor takes the bulk of the current. The first lamps were made by mixing oxides or salts with carbon powder, rubbing up to a paste, pressing into threads, and igniting them whilst embedded in charcoal dust. Vegetable fibres and colodion filaments were impregnated with salt solutions, or a central filament of carbon was surrounded with a coating of emissive oxides or metals. Then the endeavour was made to construct a central filament of a difficultly fusible metal, but Auer was the first to succeed with such brittle and infusible material as osmium, for instance. One of the difficulties in connection with these filaments with central conductors is that the current passing through has to be so intense in order to heat the surrounding coat that there is danger of volatilising the metal. The author concludes with some remarks upon flame arc lamps made by adding fluorspar and other mineral substances to the carbon pencils.

In the issue of October 19 there also appears an article by Dr. Franz Strunz, on the chemical ideas in the writings of Plato. Recent discoveries have turned the attention of scientists to the consideration of the nature and constitution of the atoms themselves, instead of being content with the investigation of matter as composed of molecules and atoms. As so often happens, these new ideas are to a great extent a renewal of very old ones, especially of those put forward by the Greek philosophers. The world as conceived by Plato and set forth in his "Timæos" is not eternal, but was created at the beginning of time, and constructed in accordance with a conception of the creator. There is only one world, not several independent ones. The permanent material substratum of the elements (original matter) is devoid of form or qualities. Matter or space is something which exists with God, and is undetermined, shapeless, and unlimited, and before the creation of the world was formless and unmeasured. It cannot be comprehended, either by the mind or consciousness. As matter assumed form and order, the four elements arose. Matter is therefore the material foundation, which, always undergoing change, can become anything, and, therefore, forms the substratum of all the elements and remains present in all their variations, just as unlimited space comprehends everything. That which has been evolved should, however, be material, visible, and tangible. But without fire nothing is visible, and without earth nothing tangible. The Creator therefore made everything from fire and earth. As, however, two cannot be joined together without a third to form the connecting link, the Creator added air and water. Many details of the working out of these fundamental ideas will be found in the article.

The same issue contains a report of the proceedings of the 14th International Congress for Hygiene and Demography, which was held at Berlin from September 23 to 29. Amongst the subjects discussed was poisoning by lead compounds and other substances used in industrial processes. Teleky, speaking upon the phosphorus question, stated that in Austria in the years 1896 to 1905 he had been able to discover 277 cases of phosphor necrosis, and there were probably 350 to 400 cases altogether, although only 71 cases were mentioned in the reports of the inspectors. He thinks that the statistics of other States are also incorrect. He considers that the disease is not a local one, but that it affects the whole of the bones, causing spontaneous fractures. He is in favour of the total prohibition of the use of white phosphorus. Other subjects dealt with at the Congress were poisionng by manganese compounds in the Weldon process, and by mercury compounds in the preparation of furs.

In the issue of October 23, W. Kerp writes on sulphurous acid in food stuffs. This material is now used in large quantities for treating foods and drinks, and is employed for two different purposes: for destroying micro-organisms; and for bleaching wines, preserved fruits, meat, and many other products. Having made the observation that sulphurous acid remains unchanged in food for years, the author, together with others at the Imperial Health Office, has made an investigation of the condition in which it exists in it. The conclusion arrived at was that in wine the sulphurous acid is combined with acetaldehyde, in fruit with glucose, and in other foods with substances of the nature of an aldehyde or ketone. These addition compounds, however, possess very different degrees of stability; the glucose compound, for instance, decomposes very readily into its proximate constituents, and the acetaldehyde compound only very slowly. Experiments on animals were quite in accordance with this, for whereas it took 1½ grammes of SO_2 as formaldehyde sodium sulphite to kill a canary, when introduced as the corresponding glucose compound a third of a gramme was enough. In the presence of mineral acid the sulphurous compounds are not so poisonous.

In the issue of October 1 there is a description of a furnace devised by Moore and Heskett for the treatment of iron ore and the production of iron and steel from it. The furnace has a removable hearth on wheels, and is heated by means of producer-gas. The regenerative principle is made use of to economise the heat. It is not stated whether the furnace has been given an actual trial.

In the same issue the publishers of the *Zeitschrift* offer prizes for papers on the following subjects:—Apparatus for simple and fractional distillation in high vacuum; arrangement for separating solid suspended matter from liquids; plant for stirring liquids with air; and a paper on any subject connected with chemical plant and apparatus. The prizes offered are 300 marks (£15) for each subject.

In the *Elektrochemische Zeitschrift* for October there are instalments of papers on the following subjects. The electrolytic precipitation of zinc by the use of rotating electrodes, by T. S. Price; the distribution of the current in accumulators, by H. Herkenrath; and the preparation of compounds of nitrogen and oxygen from atmospheric air by electrical means by B. Springfeldt.

Analytical Notes.

THE TITRATION OF ZINC IN ALKALINE SOLUTION.

By Edgar B. Van Osdel.

Some time ago I made some comment upon experiences in the titration of zinc by potassium ferrocyanide in ammoniacal solution, keeping iron in solution by means of tartaric acid or a tartrate, and using the iron as an indicator with acetic acid upon the spot plate. Ores containing large percentages of iron, however, are not suitable for such treatment, since the dirty colour produced by the acidification on the spot plate masks the faint end-reaction of prussian blue. To remove the iron the standard method by Low may be employed, evaporating to dryness with potassium chlorate and nitric acid, diluting with, and after filtration washing with, solution of ammonium chloride and ammonia.

Instead, however, of acidifying, boiling to decompose chlorate, and double neutralisation before titration, we may proceed at once to titration in alkaline solution by simply dissolving a small quantity of ferric chloride in the acetic acid used upon the spot plate. The solution must be distinctly ammoniacal, but not excessively so. If the solution to be titrated is too nearly neutral the end reaction lacks sharpness, and if too strongly alkaline the zinc is not precipitated. If a solution of 100c.c. ammonia and 100 grammes ammonium chloride to the litre is used for dilution and washing, the titration will be satisfactory. Small variations in the amount of ammonia do not affect the standard, and if decomposing containers are filled to a certain depth, and similar conditions observed in washing, the results will be uniform.

An outline of the process, which is a modification of Low's standard method follows:—One-half or one gramme of ore is decomposed with 10 to 15 c.c. nitric acid, preferably in an

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Erlenmeyer flask of Low's special funnel-neck form, and as soon as red fumes cease to appear, 10 grammes potassium chlorate are added. A convenient method of doing this is to use an annealing cup, size B, which has been made into a dipper by the addition of a handle of stiff wire. When shaken down level this holds almost exactly 10 grammes, and its contents may be quickly and easily transferred to the flask. More or less of the chlorate does not affect the result.

The contents of the flask are boiled to dryness, cooled, and a certain amount, 25 or 35 c.c., of the zinc wash added. The wash contains 100 c.c. ammonia and 100 grammes ammonium chloride to the litre. The flask is returned to the bath, its contents brought to a boil and poured upon the filter, catching the filtrate in an 8 oz. beaker. The flask is rinsed three times with as little hot water as possible, using the mouthpiece of the wash bottle for its delivery. When this has run through, the precipitate is washed twice with hot zinc wash from a wash bottle, using enough to fill the paper to a depth of about one inch above the point. When this has run through, a third wash of hot water, again using the wash bottle inverted, is used. After the filter has drained and the filtrate has been heated to boiling, it is ready for titration.

The solution should be divided as usual, and after the end point is passed, all of the other half is added except enough to require 1 c.c. for titration. The standard solution may then be added 1 c.c. at a time until the end point is again passed, when the whole is returned to the original beaker and finished carefully, 0.1 c.c. at a time. A light blue colour appears instantly with two drops excess.

The indicator is prepared by adding to glacial acetic acid a few cubic centimetres of solution of ferric chloride. The colour must not be strong enough to mask the end reaction, but should be sufficient to obscure any bluish tinge produced by copper in solution.

Each depression of the spot plate should contain 0.3 or 0.4 c.c. of the indicator to ensure acidity when 1 or 2 c.c. of the solution is withdrawn with a hollow rod. The ordinary spot plates have too shallow depressions. A convenient one is made by pouring melted paraffin into a cigar box to a depth of 0.5 to 0.75 in., and cooling as rapidly as possible to produce a uniformly white colour. When cold, depressions of any desired depth can be bored with a small spatula.

Since copper is not precipitated in ammoniacal solution when potassium chlorate and zinc salts are present, its removal is unnecessary. In any event the addition of a small amount of potassium hydrate would absolutely prevent interference.

If all solutions and wash water are hot, a run of zinc determinations can be made in an hour. In order for the standard solution to equal 1% for each cubic centimetre it should contain 66 grammes to the litre.

Tests have been made with a view to using uranium acetate in acetic acid as an indicator, but without success.—*Engineering and Mining Journal.*

Artificial Fertilisers in Russia.—H. M. Consul-General at Odessa, writing in regard to the use of artificial fertilisers in Russia, states that phosphates are very largely produced in the country from ground coprolites. They are manufactured into superphosphates, chiefly in the Baltic provinces and near Moscow. The high import duty continues to discourage the formerly large import of British superphosphates. The local product is mostly manufactured by Germans established in Russia. A certain quantity of Russian phosphate was formerly exported from Odessa, but the superior richness of the Algerian phosphates and their greater solubility in sulphuric acid have caused them to displace the Russian product. Vast beds of coprolites have long been known to exist in Central Russia and in the Dniester Basin. Estimates as to the quantities existing in the Dniester Basin alone have ranged as high as 1,700,000,000 poods (over 27,000,000 tons), but such computations are largely guesswork. Between 1886 and 1901 an export duty was imposed on coprolites. In the latter year the deposits were considered limitless, and the export duty was remitted. But recently the increased internal demand for superphosphates (chiefly for beet cultivation) and a lower estimate of the deposits have led the Kiev Agricultural Society to petition for a re-imposition of the export duty at 18c. per pood (£1. 3s. 7½d. per ton). British basic slag or Thomas slag was formerly an important import into Russia. It is now manufactured in vast quantities by a German firm at Taganrog, and at Sartana in the Taurida Government.

RADIUM.

At the last meeting of the Manchester Literary and Philosophical Society two papers on radium were read, the first by Dr. Henry Wilde, F.R.S., whose subject was the atomic weight of radium, and the second by Professor E. Rutherford, F.R.S., who gave an account of recent work on its origin and production. The occurrence of radium always in association with uranium, and in a definite proportion, pointed to a state of equilibrium between the two elements having been reached during geological time. With the object of determining whether uranium was the parent form, samples had been prepared altogether free from radium, but the most careful tests by Professor Soddy showed that the rate of production of radium was many times smaller than that indicated by theory. There remained the possibility, however, that radium owed its birth to some intermediate element, whose existence had been the object of search by Dr. Boltwood and Professor Rutherford. The former had at first attempted to show that this intermediate form was actinium, but Professor Rutherford had all along dissented from this view. Specimens of actinium had been prepared of various strengths, as measured by the electroscope, which showed that the formation of radium did not proceed as it should have done, according to this hypothesis. Moreover, Dr. Boltwood had, by chemical means, obtained a product intermediate between radium and uranium X—the first product of the disintegration of the latter—which was in many respects like thorium, but yet not identical with it. The supposition was, accordingly, that if actinium was a disintegration product of uranium, it was not in the direct line of descent, but branched off at some point hitherto not determined. The existence of such a body being postulated, it could be reconciled with all the observed facts with regard to the production of radium, and Dr. Rutherford incidentally described a means of determining the period of its existence before it changed into the next succeeding form. He was inclined to fix 2,000 years as the limit, though other authorities had estimated it at no more than 250 years. The form of electroscope used in making these determinations was described, and it was stated that one million millionth of a gramme of radium could just be detected by its means, and ten times that amount estimated with some degree of confidence.

PETROLLUM IN ROUMANIA.

In his report on the exportation from Roumania of petroleum and its products, Mr. H. G. Knowles, the American Minister at Bucharest, states that exports amounted in 1904 to 49,004,281 gallons; in 1905 to 65,514,067 gallons, an increase of 33%, and in 1906 to 97,587,155 gallons an increase of 50% over the previous year, and nearly 100% over 1904. There was comparatively little increase in the exportation of crude oil in 1905 and 1906 over 1904, and it has been the refined or illuminating oil and gasoline that has raised the exports in such great and rapid proportion. The exportation is to England, which takes 28%, France 27%, Germany 11%, Turkey 7%, Austria-Hungary 5%, and Bulgaria, Servia, and Norway together 3%.

The petroleum industry in Roumania is yet in its infancy, but the Government now realises that its petroleum is one of its most valuable products and assets. Unlike agricultural crops, the oil supply seems not only inexhaustible, but the yield is to be depended upon. The Government has recently adopted a policy of liberality toward the development of the country's youngest and most promising industry. Large appropriations have been made to improve the facilities for shipping oil from Constantza, the principal port of Roumania on the Black Sea, and from which was shipped in 1906 77% of the total exportation of petroleum. The transportation of petroleum from the oil fields and refineries has been mostly by railroad tank cars. This has been slow, expensive, and inadequate, hence the Government, to aid in the development of the oil industry, proposes to construct a new and large pipe line from the most distant oil section to Constantza, a line distance of about 220 miles.

Pyrites in Spain.—The pyrites mines near Ferrol, Spain, are reported to have been acquired by a French company for £10,000. It is also reported that an English company contemplates working several of the old copper mines in the district.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Tetrazo Dyestuff. P. A Newton 23,182. October 21.
Azo Dyestuffs. P. A. Newton. 23,183. October 21.
Reduction Products of Sodium Sulphate. G. W. Johnson. 23,217. October 21.
Filtering, Washing, and Drying Apparatus. J. Bebbington and T. T. Mathieson. 23,221. October 21.
Match Manufacture. Hans Schaefer. 23,250. October 21.
Resinous Products. L. Grognot. 23,328. October 22.
Apparatus for Subjecting Gases to the Action of Liquids. J B Peat and Herman Bonia 23,330. October 22
Manufacture of Candles. W. H. Day and W. Murch. 23,340. October 22
Concentrating Salts Dissolved in Water. F. Lindskog 23,348 October 22.
Centrifugal Drying Machines. J. W. Macfarlane and R. Williamson. 23,362. October 23.
Heating and Purifying Feed-water. A. C. Baird. 23,365. October 2
New Uses of Oxygen in Metallurgical Processes. Otho Hellstern and G. T. Vincent. 23,366 October 23.
Manure. H. Colburn and S. G. Broadbent. 23,399. October 23.
Treatment of Slags from Tin Smelting Furnaces. G. T. Holloway. 23,405. October 23
Dyestuff of the Gallocyanine Series. P. A. Newton 23,410. October 23
Carbonic Acid Baths. W. Matsa. 23,419 October 23.
Pulverising and Grinding Machines. A. J. Lavington. 23,493. October 24
Screens for Ores, Cement, etc. G. A Mower and F W. R. Williams. 23,495 October 24.
Dewar Flasks. J. Plechati 23,588. October 25.
Aluminic-sodic Chloride, Ferric Chloride, and Phosphatic Fertilisers from Aluminic-ferric and Calcic-aluminic ferric Phosphates. H. Schröder 23,634. October 25.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Gas Generator. Willis 23,080.
Portland and like Cements. Kelway-Bamber 23,450.
Gas Regulating Devices for Bunsen Burners. Harrisson and Noad. 23,529.
Emulsification of Oils. Common and Hull Oil Manufacturing Co 23,763.
Producing Gas from Liquids. Hanwell and Beard. 24,965
Diacetyldiaminophenol Derivatives and Dyestuffs therefrom. Ransford 27,322.
Colouring Matters of the Anthracene Derivatives. Newton. (Farbenfabriken vorm F. Bayer and Co.) 28,765.
Separating Liquids from Solids or Matter Held in Suspension. Whitham. 28,977.

1907.

Combined Gas-producer and Ammonia or Equivalent Generator. Clarke Chapman and Co. and Robs N. 3424.
New Vat Dyestuffs. Imray. (Fabwerke vorm. Meister, Lucius and Brüning) 1,472.
Stable Hydro-sulphite Preparation. Imray. (Fabwerke vorm. Meister, Lucius and Brüning.) 7,349.
Monoazo Dyestuff Imray. Fabwerke vorm Meister, Lucius and Brüning.) 7,351.
Lithopone. Steinau. 11 803.
Pulverising Mills. Flewin and Bestic. 13,257.
Electric Furnaces. Pauling. 18,901.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

A Process of Liquefying Air and Winning Oxygen. R. Mewes, 14, Pritzwalkerstrasse Berlin British Patent, 21,780/1906. Date claimed under International Convention, October 3, 1905

This invention has for its object a process of liquefying air and separating gases with a partial rewinning of the energy consumed by the compression. It differs from older and similar processes in this respect, that for the purpose of increasing the lowering of the pressure behind the expansion chamber in the exhaust port of the expansion engines (piston engines, Laval or Parsons turbines or the like) the expanded gases are not sucked off by the compressor, but by a special device (suction pump or the like), while a vacuum is produced, in order not to let cold expanded gases re-enter into the compressor, but to drive them out into the open air after using them as far as possible as a cooling medium for the process itself, in order to obtain in this way a mixture of fluids rich in oxygen. This is facilitated by not sending back the expanded gases into the circuit, but by driving them out after an almost perfect exchange of heat has taken place.

The present invention is an improvement on the invention described in the inventor's former Patent Specification No. 24,144 of 1905, wherein compressed air was caused to stream into an artificially maintained vacuum for the purpose of lowering the temperature and afterwards conducted into the atmosphere. According to the present invention the air is expanded in a cylinder behind a piston and exhausted into a chamber the pressure in which is below atmospheric, this chamber having its temperature lowered by the exhaust and constituting an effective cooler for the air to be liquefied.

The new technical effects claimed over older processes for liquefying air in which the expanded gases, after having done their work, are led off under atmospheric pressure, consist in the first place that, in consequence of the greater lowering of the pressure the falling of the temperature is correspondingly greater, that secondly the engine is not stopped as is the case with Siemens and other similar devices by a great lowering of the temperature, but, thirdly, also that the liquefied gases, which are partly evaporated again in the process itself, are evaporated at a suitably reduced pressure of less than one atmosphere, and in quantities corresponding with the vapour pressures of the component parts of the mixture of fluids. For instance, as experiments by Dewar, Estreicher, Baile, Olszewski have shown, (conf. *Zeitschrift fur komprimierte und flussige Gase*, 2nd year, number 12, page 166) nitrogen has at 105 degrees a vapour tension of 740 mm., oxygen a tension of 142 mm. By producing a reduced pressure above a fluid the temperature is at once lowered, if not sufficient heat is admitted for the evaporation of the quantities of fluids sucked off. It is evident that,—as in the present process the temperature, by producing a reduced pressure by means of a suction pump, can easily be lowered down to -200° or still further, and as at these temperatures the proportion of the vapours of both fluid parts is greater than 740 : 142, therefore greater than 5—it is necessary to evaporate over five times as much nitrogen as oxygen. This proportion becomes greater with the lowering of the temperature and is according to Olszewski at -214° 60, 3.6, or 16. By producing a vacuum of 60 mm., which is technically easy, 16 times as much nitrogen as oxygen will be evaporated, therefore almost only nitrogen.

The process is therefore suited for winning directly almost pure liquid oxygen, and by its distillation correspondingly pure gaseous oxygen.

The inventor claims :—(1.) In a process of liquefying air and winning oxygen with a partial recovery of the energy expended wherein the expanded gases are conducted into the atmosphere, expanding the gases in a cylinder which exhausts into a chamber used as a cooling chamber from which the said gases are discharged into the atmosphere by means of a pump or the like. (2.) A device for carrying out the process according to Claim (1), the essential feature of which is that to the exhaust pipe of the engine for expanding the compressed gases a suction-pump, or the like, is connected.

Improvements in or Relating to Saturators for Use in the Manufacture of Sulphate of Ammonia. P. E. Williams, 86, Poppleton-road, Leytonstone, Essex, and R. L. Fenner, 1, Coleraine-road, Blackheath, Kent. British Patent, 25,547. November 13, 1906.

The claiming clause of this specification is :—"The improvement in or relating to saturators for use in the manufacture of sulphate of ammonia which consists in fixing a distributing pipe externally to the saturator and connecting it thereto by lengths of pipe so as to enable the sulphate to be made equally in all parts of the acid liquor and to prevent the formation of incrustations or deposits of hard salt."

Improved Manufacture of Sodium Alum, Potassium Alum, or Ammonium Alum free from Iron and in Small Crystals. Strohbach, Neidersedleitz-Dresden, Germany. British Patent, 28,581. December 14, 1906.

The full text of this specification will be found on p. 422 of this issue.

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Improvements in and in the Preparation of Explosives. The King's Norton Metal Co., Ltd., 16, Great George-street, London, S.W., T. A Bayliss, Managing Director of the King's Norton Metal Co., Ltd., H. Melville Smith, of Hill Top, Abbey Wood, Kent, and H. W. Brownsdon, Analytical Chemist to the King's Norton Metal Co., Ltd. British Patent, 28,053 Dec. 10, 1906.

The claims of this specification are :—(1.) The improvement in explosives hereinbefore described, the said improvement consisting in coating or covering the grains or particles of the explosive with a metal, preferably aluminium in fine powder. (2.) The improvements in the preparation of explosives of the kind claimed in the prior claim, the said preparation consisting in first treating the fine metallic powder with a small quantity of oil, vaseline or the like and afterwards intimately mixing the oiled metallic powder with the explosive.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.		Closing Price Wednesday, Nov. 6.
120,000	1	1	Bell's Asbestos ...	ord	1 15/16 2 1/16
	Stock	100	Bo ax Consol 4½% deb. stock	red	109½
80,000	10	10	Do. 5½% cum.	pref.	10⅞
1,356,477	1	1	Bradford Dyers ...	ord.	22/7½
1,50.,000	1	1	Do. ... 5%	c.p.	21/- 21/1½
35,000	10	10	British Dyewood ...	,,	70/-
600,000	1	1	British Oil & Cake Mills	ord.	12/3
235,000	1	17/-	Broxburn Oil, Ltd. ...	,,	40/9
10,000	10	10	Do. ... 6%	c p.	12¼
1,962,870	1	1	Brunner, Mond and Co.	ord.	5 3/16 5 5/16
82.678	10	10	Do. 7%	pref	15⅛ 16⅛
96,000	5	5	Bryant and May ...	c.p.	12¼ 12¾
40.000	10	10	Buxton Lime Firms	ord.	6 1/16 6 3/16
352,500	5/-	5/	Cassel Cyanide Co., Ltd.	,,	20/9
450,000	1	1	Castner Kellner ...	,,	27/3
16,000	5	5	Clayton Aniline ...	,,	3 4
12,000	5	5	Do. ... 6%	c.p.	3¾ 4
6,000	6	3	Cleveland Salt ... 6%	m.p.	3 3½
20,000	10	10	Crosfield J., and Sons	c.p.	9¾ 10
85,000	1	1	Fletcher, Russell, & Co.	ord.	28/6 29/-
5,000	10	10	Do. 6%	c.p.	11 15/16 12 1/16
£15,223,235	Stock	00	Gas Light and Coke Co.	ord.	90½ 91½
50,000	10	10	India Rubber Co. ...	,,	15
	5	5	Lagunas Nitrate ...	,,	3 3¼
3,500	10	10	Laidlaw, Mackill, and Co.	,,	8
	5	5	Lautaro Nitrate ...	,,	11½ 12
200,000	10	10	Lever Bros. ... 5%	c.p.	10⅜ 1⅜
400,000	10	10	Manchester Ship Canal	ord.	20/-
400,000	10	10	Do. per 5%	pref.	29/9 30/3
120,000	1	1	Mandelberg ...	ord	31/6 32/6
185,150	1	1	Mason and Barry ...	,,	3
134,694	10	10	Nitrate Railways ...	,,	9½ 10
228,540	10	10	Nobel Dynamite Trust	,,	15 15/16
	10	10	Do. share warrants		15¼
200,000	1	17/-	Oakbank Oil, Ltd. ...	ord.	37/-
	1		Pears, A. and F. ...	,,	31/3
70,000	10	10	Pease and Partners ...	,,	11½ 12
37,500	16	16	Price's Patent Candle	,,	33½
130,000	1	17/	Pumpherston Oil, Ltd.	,,	13 5/16
10,000	10	10	Do. 6%	c.p.	13
375,000	5	5	Rio Tinto	ord.	70⅛
2,500	7½	7½	Robin and Houston ... 5%	c.p.	76/6
196,962	1	14/7	Sadler and Co. ...	ord	3/3 3/9
200,000	4	4	Salt Union	,,	15/- 15/6
100,000	6	6	Do. ... 7%	n.c.p.	4 4¼
£148,000	1	1	Sanitas Co., Ltd. ...	ord.	1 1⅛
	4	4	San Jorge Nitrate ...	,,	⅝ ⅞
	1	1	Schibaieff Petroleum	,,	⅛ ¼
£6,250,000	Stock	00	South Metropolitan Gas	,,	119½
45,000	10	10	Steiner, F. and Co. 5%	c p.	9 9⅜
625,000	2	2	Tharsis Sulphur & Copper	,,	6¼
289,343	10	10	United Alkali ...	ord.	66/9
282,524	10	10	Do. ... 7%	pref.	11 3/32
80,000	1	1	United Indigo & Chemical	ord.	2/0
66,665	5	5	Willans and Robinson	,,	1 3/16 1 5/16
210,000	1	1	Woolc mbers ... 7%	c.p.	19/6
113,202	4	4	Young's Paraffin ...	ord.	69/6

NEW YORK PRICES CURRENT.

OCT. 22, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7⅝
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 5½
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

MAGNESIA CLAY IN ITALY.—According to a United States Consular report, Italy produces annually about 1,800 tons of sulphate of magnesium, 600 tons of calcined magnesia, and 625 tons of magnesite. The Kingdom exports some 850 tons of sulphate of magnesium, and imports 950 tons of chloride of magnesium, exporting about one-half of the latter amount. The domestic production appears to suffice for the home consumption, and is apt to be increased according to necessities. Italy would not seem to offer a market for similar foreign products.

SICILIAN SULPHUR.—The exports of sulphur from Sicily amounted last year to 17,500 tons, a decline of 23,200 compared with 1905, says the American Consul at Palermo. His report continues :—"The obligatory syndicate for the control of the entire industry of the island was constituted by the Italian Government on August 1 last, and it was to this body that the Anglo-Sicilian Sulphur Company had to sell its stock of sulphur at a price involving a loss to the company of $1,450,000. The great problem the syndicate has to face is the competition of the United States, an extraordinary development of the sulphur mines of Louisiana having occurred in recent years. Thus America, which at one time took a large proportion of the Sicilian output, now imports very little. The Italian Government sent two official missions to Louisiana to see what was being accomplished there, and how it was done. The new syndicate has taken over some 350,000 tons of the stocks of the Anglo-Sicilian Sulphur Company ; it has to cope with an excess production of about 10% above the world's consumption, and also the practical loss of the United States market, which consumed about one-fifth of the total exports. These are conditions serious enough of themselves, besides having to grapple with the limitation of mining operations and consequent unemployment."

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Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, October 22nd, 1907.

(Rate of Exchange, $4.86½ = £1.)

Nitrate of soda remains dull at $2.40. per 100 lbs. Sulphate of ammonia is slow of sale, and is quoted at $3.05 per 100 lbs. Grey muriate for galvanising is moving in usual consuming channels at 6c. to 6¼c. per lb. White muriate for electrical purposes is slow, at 5⅞c. to 6c. per lb., as to make. Lump sal ammoniac is steady at 9¼c. per lb. Lump carbonate ammonia ranges from 7⅝c. to 8c. per lb. Bleaching powders are in rather plentiful supply, ranging in price from $1.15. to $1.25. as to make and test. Alkali is quoted at 92½c. per 100 lbs., for light 58% in bags, f.o.r. works, and caustic soda, 74%, is $2.10. Sulphate of copper is quoted at 5½c. per lb. by the syndicate, while outside makers are shading this figure a trifle. White powdered arsenic is dull, but firm and steady at 6⅞c. to 7c. per lb., for spot, and 6¾c. to 6¾c. per lb., for futures. Red Saxony arsenic is unchanged at 7½c. per lb. Carbonate of potash, calcined 80-85%, is 3¾c. per lb., and hydrated is 4¼c. to 4½c. per lb. Caustic potash, 75%, is 4½c. per lb. Chlorates are steady at 8¼c. to 8¾c. per lb., for soda and potash respectively, for prompt shipment f.o.r. works, and next year's prices have been fixed on the same basis. Bichromate of potash is 8¼c., and soda is 7½c. per lb. Prussiate of potash is dull and lower, at 15½c. per lb., and soda slow at 9c. per lb. Oxalic acid is in more plentiful supply, and is offered at 7¾c. to 8c. per lb., as to make, for prompt, while futures are quoted at 7½d. per lb. for next year's delivery. Antimony products continue to weaken and oxide to-day is worth on spot 10½c. per lb., while needle may be had at 7c. per lb.

THE INDIAN CHEMICAL MARKET.

Market movements (Calcutta, 3rd October) are reported as under:—

Borax: Owing to paucity of supplies and very light stocks, sales have been much retarded; rates, Rs.15.0 to Rs.15.8. per bazaar maund, weight loose. Saltpetre (season, September to June): Market quiet, with prices well maintained owing to reduced supplies and very moderate stocks; quotations, Rs.8.2. to Rs.8.10. for Furrackabad refined kinds, and Rs.7.12. to Rs.7.14. for ordinary 5% retraction quality, per factory maund, weight, loose, for delivery this month; 10% refraction quality, quoted Rs.7.0.; 15 to 20% refraction quality, Rs.6.4.; and 15 to 30% refraction quality, Rs.5.12., per factory maund, weight, loose, for near and early deliveries. Castor oil cake continues in fair demand, and as deliveries have overtaken supplies, the market is very firm; export rates are Rs.6.14. to Rs.7.0. for average, and Rs.7.4. for picked quality, per bag of 2 maunds, packed in single gunny, f.o.b. for near and early shipments; unsold stocks are light. Bone meal: Market continues very steady at Rs.73.0. for New Zealand quality, Rs.68.0. for usual standard quality, and Rs.61.0. for usual standard of unsteamed quality, per ton of 20 cwts., f.o.b., packed in new single A twill bags of 200 lbs. each, for near and near forward shipments, guaranteed 4½% ammonia and 52% tribasic phosphate of lime. Bone dust: Prices, Rs.52.0. for steamed, and Rs.50.0. for unsteamed quality of inferior analysis, per ton, f.o.b., for short date delivery; offerings of this grade are small. Castor oil: Owing to short supply of castor seed, quotations are Rs.19.8½. for No. 1 fine pale, Rs.14.8½. for good seconds, and Rs.13.14½. for thirds in cases, per bazaar maund, weight, f.o.b., for prompt shipment; local demand has been supporting prices. Stocks and supplies continue small. Cocoanut oil: Owing to increased arrivals the market is declining; stocks of lower grades are being accumulated; for export sales are few, at Rs.20.0. to Rs.20.4. per bazaar maund, weight, f.o.b., in cases, for near and near forward shipments. Salt: The market continues steady; local stocks held, in maund weights, were: Ex Liverpool 408,350, Hamburg 654,703, Aden 275,384, Saliff 63,913, Phocee 145,437, Spanish 190,579, Port Said 147,249, and Bombay 21,543; quotations per maund were: Liverpool, Rs.47.0. to Rs.51.0. Hamburg, Rs.42.0. to Rs.48.0.; Aden, Rs.44.0. to Rs.50.0.; Saliff, Rs.45.0. to Rs.60.0.; Phocee, Rs.48.0. to Rs.50.0.; Spanish, Rs.46.0. to Rs.54.0.; Port Said, Rs.47.0. to Rs.50.0.; and Bombay, Rs.48.0. to Rs.50.0.

TAR AND AMMONIA PRODUCTS.

THURSDAY.

Benzols very quiet, with quotations given at 8¾d. to 9d. for 90's, and 8¾d. for 50-90's, casks included. Crude tar, 14s. 6d. to 18s. 6d. per ton, Thames; 1⅛d. to 1⅜d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 24s. 3d. to 24s. 9d., f.o.b.; Gas Company, 26s. 6d.; East Coast, 23s. 3d. to 23s. 9d.; West Coast, 22s. 6d. to 23s. 6d. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol 90%, 10d. to 10½d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 5d. to 1s. 5½d.; 60%, 1s. 7¾d. to 1s. 8d.; 75%, 1s. 11¾d., casks included. Crystals, 39-40, 5¼d.; 34-35, 4⅝d. to 5d. Cresylic, 95%, 1s. 1d. to 1s. 1½d. Anthracene, 40 to 45 per cent A, 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia firm and in good demand. Nearest values are:—Beckton, to end of year, £12. 5s. to £12. 7s. 6d.; next year, £12. 7s. 6d. to £12. 10s.; Beckton terms, £12. 2s. 6d.; London, £11. 18s. 9d. to £12.; Hull, £12. 2s. 6d.; Liverpool, £12. 2s. 6d. to £12. 3s. 9d.; Manchester, £12.; Leith, this year, £12. 5s. to £12. 6s. 3d.; next year, £12. 7s. 6d. to £12. 10s.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s. 2½d., and refined, 11s. 3d. Official quotations:—Cargoes, off coast or due, 10s. 10½d.; ditto for prompt shipment, 11s. 1½d.

THE LONDON METAL MARKETS.

WEDNESDAY.

Copper: Standard brands, £63. 12s. 6d. to £63. 17s. 6d. cash, and £63. to £63. 5s. three months. Tin: G.M. quality, £138 15s. to £139. 5s. cash, and £141. to £141. 10s. three months; English, £143. Lead: Soft foreign, October, £18. 5s.; November, £18.; December, £18.; February, £17. 15s.; English, £18. 10s. to £18. 12s. 6d. Spelter: Ordinary brands, November, £21. 15s.; December, £21. 15s.; January-February, £21. 12s. 6d., ex ship; hard, £18. 10s., f.o.b. Antimony, £40. to £42.; crude, £27. 10s. c.i.f.; ore, £12. to £13. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £110. to £115. Wolfram, 38s. to 40s. Pig-iron closing prices: Cleveland, 49s. 10d. cash; 49s. 10½d. one month; 50s. three months.

FERTILISER MATERIALS.

THURSDAY.

Whilst demand for ammoniacal materail has been good, phosphatic material is not attracting attention.

High grade mineral phosphates are offered more freely at a decline on last prices, but 58-63% grades are unchanged.

Quotations for East Indian bone meal for shipment have been advanced; shippers now require £4. 18s. 9d. per ton, nett, c.i.f. terms, Liverpool, 4½ and 52% quality; on spot, £5. 5s. to £5. 10s. per ton, according to quality, ex store, is asked.

Nitrate of soda is easier on spot, the quotations now being 11s. 1½d. per cwt. for 95%, and 11s. 3d. per cwt. for refined quality, ex store.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

Upon the whole business seems to be rather quieter, though there is a fair amount of business in progress for supplies during the coming year, and prices are well maintained. In the alkali trade there have been no movements of any particular consequence during the week. Bleaching powder remains steady at £4. 7s. 6d., f.o.r. Caustic soda, £10. 5s. per ton for 70%, f.o.b. Liverpool, with usual 5s. rebate for contracts over 1908. Ammonia alkali is steady, and firm at £4. 10s., bags, f.o.r. Soda crystals, 55s. to 57s. 6d. per ton, in bags, f.o.r. Chlorates are unchanged at 3½d. Saltcake is firm: a fair amount of business has been done forward for next year at 42s. 6d. per ton, in bulk, carriage paid. Sulphur remains unaltered at £4. 12s. 6d. For sulphate of copper the present quotation is £24., f.o.b. Acetates of lime continue steady in value. Acetic acid and other acetates are more freely offered, and prices on the whole are steady at former quotations. Prussiates are firm, soda at 3¾d., and potash 5⅞d. to 6d. White powdered arsenic is steady at £29. 10s. for best Cornish makes, and other makes at £28. 10s. Green copperas continues scarce, and price is unaltered. Ammonia and ammonia salts are in good general demand, and values are well maintained.

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LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil in greater demand, sales including soft oils at £28. 2s. 6d., and Old Calabar at £28. 5s. to £28. 7s. 6d., both for November-December delivery, with Lagos retail lots on spot, £31. 5s. per ton, all in transit. Linseed oil quiet, at 25s. 9d. to 27s. per cwt., for Liverpool makes in export casks. Cottonseed oil steady, with quotations given at 26s. to 27s. per cwt., for Liverpool refined in export barrels. Tallow quiet. Turpentine dull, at 37s. 3d. per cwt. for spot parcels. Petroleum in fair demand, at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 1½d. to 1s. 3d. per gallon.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes and peral ash nominal, pending fresh arrivals. Bark quiet at recent quotations. Logwood is in little demand, but market maintained at previous quotations. Cutch unchanged in prices, but with a moderate enquiry. Gum: A continued steady tone prevails, but little business is passing. Gambier: Block, 23s. to 23s. 6d. on spot; November-December shipment 20s., and 19s. 9d. for December-January shipment. Cubes, 30s. to 30s. 6d. on spot; October-November and Novemb ber-December shipments, 28s. per cwt. Shellac: Sales restricted, with little business passing, and quotations given for fair to good TN orange at 130s. to 135s. on spot, and nominally for December-January, 97s. 6d., c.i.f., for shipment. Glucose firm: American liquid, 43%, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 1½d., and for October-December, 9s. 7½d., c.i.f., for shipment. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 88s. to 89s.; 95%, 86s. to 87s. Tartaric acid: English, 11½d. on spot, and foreign, 11d. Citric acid: English, 1s. 9d.; foreign, 1s. 9d.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OIL.—The imports of seed have been on a liberal scale, but whether this has the most influence on the market or the present monetary stringency it would be difficult to explain, yet markets for seed oils have been receding all the week. Linseed oil has fallen during the week 25s. per ton, and refined cotton oil 10s. per ton. Turpentine also is lower, which is most directly attributable to the American monetary position. Amongst the principal imports here to date, against the same time a year ago, are:—Wheat, 3,540,237 qrs., against 3,277,971 qrs. Flour, 178,916 cwts., against 300,073 cwts.; linseed, 686,281 qrs., against 499,356 qrs.; rapeseed, 99,763 qrs., against 102,802 qrs.; cottonseed, Egyptian, 144,419 tons, against 131,367 tons, other kinds 149,343 tons, against 105,958 tons; oilcake, 21,857 tons, against 34,999 tons; hemp, 112,917 cwts., against 138,065 cwts.; olive oil, 3,682 tuns, against 3,370 tuns; tar, 14,604 barrels, against 11,199 barrels. Amongst the weekly imports are:—Margarine, 2,991 cwts.; lard, 3,989 cwts.; sugar, 21,876 cwts.; glucose, 20 cwts.; colours, 2,274 packages; wool, 247,464 lbs.; hides, 1,062 cwts.; oilcake, 4,019 tons. Exports:—Oil, 9,973 cwts.; colours, 2,314 packages; chemicals, 2,109 packages. Refined cotton oil closes quiet, spot, naked 22s. 3d.; November-April, 22s. 6d.; casks £1., and barrels £1. 7s. 6d. per ton. Exports for the week:—6 tons France, 29 France, 10 Holland, 3 Norway, 8 Sweden; total 56 tons. Linseed oil, spot, naked 23s. 1½d., November-December 23s. 1½d., January-April 22s. 3d.; boiled and refined, £1. and £1. 10s. per ton extra. Exports during the week:—2 tons Denmark, 2 Egypt, 22 Germany, 5 Norway; total 31 tons. Olive oil, Levant, on the spot £41. Castor oil, November-December £31., January-June £30. 10s., July-December £30. 5s. Turpentine quiet, 37s. spot, December 37s. 3d., January-April 38s. 3d., May-June 38s. 3d.; Russian 20s. 9d. Rosins quiet and dull.

CAKES.—Linseed quiet, foreign makes scarce. Cotton, best, spot at £5, December-April advanced to £5. Bombay, £4 5s.; December-January advanced to £4. 10s., February-April unchanged.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

Except in the covering of forward lots there is comparative quietness in the movement of sulphate of ammonia, new business being small of volume, but value remains steady at about £12. 5s. prompt, f.o.b. Leith. So far as forward dealing is concerned, there has been no actual renewal of movement; makers are said to be looking for £12. 7s. 6d., Leith and Glasgow. Nitrate of soda has dropped a fraction. Sulphate of copper continues under the influence of the vagaries of the metal. The market in the ordinary chemicals has felt in some measure the effects of the United States financial tumult, but on the whole its stability is fairly well held, and prices for the most part are maintained. Scotch calico printing works are still in short work, some being down to three days a week, and the dye works are also indifferently supplied with orders. Colour chemicals, and drysalteries generally, are a shade easier on the market.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace) 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda, 11s. 3d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £5. 15s. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5⅞d. to 5¾d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £22. less 5% Liverpool, prompt.

TYNE CHEMICAL REPORT.

WEDNESDAY.

Market steady, and shipments continue in good volume. Caustic soda firm at £11. for 76-77% and £10. 5s. per ton for 70%. Bleaching steady at £5. to £5. 5s. per ton. Soda crystals locally quiet at £3. to £3. 2s. 6d. per ton, gross weights. Sulphur firm at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £29. 10s. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—In the market here the position remains the same. Colliery turns are very full for November, and prices are steadily held for prompt and forward. Gas coals are in increasing demand, and steam coals are also very active for the time of the year. To-day's quotations:—Best Northumbrian steam, 15s. to 15s. 3d. per ton; second qualities, 14s. to 14s. 6d. per ton; small steam coals, 10s. 6d. per ton; best gas coals, 15s. to

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15s. 6d. per ton; Durham bunker coals, 12s. 6d. to 13s. per ton; coking coals, 14s. per ton; household, 16s. 6d. to 17s. per ton; foundry coke, 22s. per ton; gas coke, 19s. 6d. per ton.

New Companies.

Anajas Rubber Syndicate, Ltd.—Capital £3,750., in 1s. shares. This company has been formed to carry on the business of planters, growers, curers, importers and exporters of and dealers in rubber, cacao, mandioca, coffee, tobacco and other products, etc. No initial public issue. Table A mainly applies.

Coke Ovens and By-Products Co., Ltd.—Capital £3,000., in £50. shares. This company has been formed to adopt an agreement with M. Duchanoy, G. Bousquet, and M. Davicion, all of Paris, and to carry on the business of manufacturers of and dealers in coke ovens, dealers in tar, oil, gas and bye-products from coal and cannel, etc. No initial public issue. The subscribers are to appoint the first directors.

Kalie-Baroe Planting Co., Ltd.—Capital £40,000., in £1. shares. This company has been formed to acquire the leases of and develop certain estates, lands or plantations at Kalie-Baroe and Tji-Gocha, in or near the Preanger Residencie, Java, to adopt an agreement with R. N. G. Bingley, J. H. Starey, and W. O. Burt, and to plant, grow, and produce tea, cinchona, quinine, camphor, coffee, indiarubber, gutta-percha, balata and other gums, cocoanuts and other natural products of any kind in Java or elsewhere. The first directors are J. H. Starey, H. J. Wenham, W. O. Burt, and G. M. Stuart. Qualification, 100 shares. Remuneration, £200. per annum and 5% of the net profits, divided. Registered office, 18, Laurence Poultney-lane, E.C.

London Asiatic Rubber and Produce Co., Ltd.—Capital £140,000., in £1. shares. This company has been formed to acquire the business of the Asiatic Rubber and Produce Co., Ltd., the registered office of which is in Colombo, with a view thereto to enter into an agreement with the said company, to acquire any lands or interest therein, or any other property or rights in the Federated Malay States, the Straits Settlements, or elsewhere, and to carry on the business of planters and manufacturers of and dealers in rubber, cocoanuts, tea, tapioca, coffee, cinchona, cacao, cardamomoms, and other natural products, etc. The first directors are C. A. Lampard, H. W. Brett, K. F. Arbuthnot, and C. D. Rotch. Qualification, £250. shares or stock. Remuneration, £100. each per annum. Registered office, 11, Idol-lane, E.C.

Magarini Valley Rubber Estates, Ltd.—Capital £3,500., in £50. shares. This company has been formed to carry on the business of planters, producers and growers of rubber, cotton and fibres, etc., and to adopt an agreement with G. Griffiths. No initial public issue. The first directors are G. Griffiths (managing director), I. Levi, W. Bottomley, and G. J. Garnett. Qualification £500. Remuneration, after aggregate dividends of 100% have been paid on the issued ordinary shares, £150. each per annum (managing director £250.) Registered office, 24, North John-street, Liverpool.

Marazion Mines, Ltd.—Capital £2,000., in 1s. shares. This company has been formed to acquire, develop, and turn to account any mines, mining rights and metalliferous land in Cornwall or elsewhere. No initial public issue. E. Melville is the first director. Qualification (except first director, who requires none) 100 shares. Registered office, Penzance, Cornwall.

Providence Tin Mines, Ltd.—Capital £100,000., in 10s. shares. This company has been formed to adopt an agreement with the Tasmanian Exploration Co., Ltd., to acquire any tin, copper, or other mines and mining rights or undertakings, to carry on the business of explorers, prospectors, miners, metallurgists, merchants and the like, to acquire by agreement or otherwise, such control over producers of tin, copper and other metals and minerals, and of articles manufactured therefrom, as may seem expedient, etc. No initial public issue. The first directors are to be appointed by the subscribers. Qualification of first directors, £200.; of others, £500. Remuneration (except managing director) £150. each per annum (£50. extra for the chairman) and 5% of the surplus net profits after 10% is paid on the shares, divided.

Silver-Lead Mines of Wales, Ltd.—Capital £4,000., in 10s. shares (7,000 preferred and 1,000 deferred). This company has been formed to carry on the business of lead and general miners, assayers, refiners, smelters, metallurgists, etc., and to adopt agreements (1) with the Welsh Copper Syndicate, Ltd., and (2) with F. de Bal. No initial public issue. The subscribers are to appoint the first directors. Qualification, 50 preferred shares. Remuneration, £30. each per annum (chairman £50.).

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pnc Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending October 24.

Acetic Acid—

France,	80 cbys.	Little & Johnston
Holland,	5 pks.	W. H. Muller & Co.
,,	4 cks.	R. W. Greeff & Co.
Germany,	25	Tennant's Wf.
,,	3	W. H. Muller & Co.

Acetone—

Germany,	£661	F. A. Tye
Italy,	129 c.	,,
Holland,	£1,640	P. F. Knowlden & Co.

Amyl Acetate—

Germany,	£410	T. H. Lee

Arsenic—

Victoria,	£415	J. Swire & Sons

Arsenical Concentrates—

Canada, A.,	£57	E. B. Phelps & Co.

Asbestos—

Italy,	1 t.	11 c.	Lunham & Moore
Canada, A.,	12	19	
Asbestos—			
Pt. E. Africa,	5 t.	19 c.	L. & I. D. Jt. Co.

Barium Nitrate—

Germany,	£26	Typke, King & Co.
,,	28	T. H. Lee

Barytes—

Holland,	39 cks.	Thames S.T. & L. Co.
Holland,	50 bgs.	W. Harrison & Co.
Belgium,	26 cks.	Felton & Crepin
,,	535 bgs.	,,
,,	50 pks.	,,
,,	40 cks.	Z. Cartwright
Holland,	7	J. Greig
Belgium,	60	,,
,,	28	Petri Bros.

Basic Slag—

Belgium,	110 t.	J. Burstall & Co.

Bleaching Powder—

France,	25 t.	R. Waters

Bog Ore—

Holland,	115 t.	Hawkins & Co.
Belgium,	80	J. Harrison & Sons

Calcium Carbide—

Sweden,	7 t.		Elephant Chem. Co.
Norway,	177		J. Spurling

Camphor—

France,	35 cs.		R. Warner & Co.
,,	10	L. & I. D.	Jt. Co.
Germany,	6		,,

Caoutchouc—

France,		2 c.	Brandts & Holt
,,		14	Props. Bull Wf.
Ceylon,	2 t.	6	L. & I. D. Jt. Co.
,,	1	3	Rowe, White & Co.
,,		7	Evans & Co.
,,		2	Williamson & Co.
France,		1	S. Figgis & Co.
Straits,	1	1	,,
,,	7	18	Boustead & Co.
,,	2	2	Lewis & Peat
Germany,	2	10	Props. Bull Wf.

Caoutchouc—

Straits,		15 c.	Props. Hay's Wf.
Ceylon,	2 t.	2	Buchanan & Co.
,,		6	Hoare, Wilson & Co.
France,		6	Sperling & Williams
Germany,		17	L. & I. D Jt. Co.
Portugal,		19	W. M. Smith & Sons
Straits,	2	11	L. & I. D. Jt. Co.
,,	4	10	Dickson & Co.
,,	1	8	Shand, Haldane & Co.
France,	1	1	L. & I. D. Jt. Co.
Straits,		18	,,
,,	5	18	E. Boustead & Co.
Ceylon,		1	L. & I. D. Jt. Co.
,,		5	W. M. Smith & Sons
U.S.A.,	5	12	L. & I. D. Jt. Co,
Germany,		16	,,

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Caoutchouc—
Germany, 1 t. 14 c. Props. Bull Wf.
Straits, 9 15 Prop. Hay's Wf.
" 17 Shand, Haldane & Co.
" 7 Lawrence, Boustead & ho.
" 12 Props. Bull Wf.
Ceylon, 2 "
" 4 Dunlop, Bros .& Co.
" 1 Rowe, White & Co.
" 5 Prop. Hay's Wf.
U.S.A., 17 Lewis & Peat
" 1 2 Props. Bull Wf.
Natal, 1 3 J. Owen
France, 13 N. Vouralist & Co.

Castor Oil—
Belgium, 28 brls. Fuerst
France, 3 Pannett Bros. & Neden
E. Indies, 19½ cs. Perkins & Homer

Caustic Potash—
U.S.A., 20 brls. S. Ward & Co.
Germany, 21 dms. J. M. Steel & Co.

Chemicals (*otherwise undescribed*)
Germany, £116 A. & M. Zimmermann
" 293 T. H. Lee
" 6 Argo S.S. Co.
Holland, 172 W. H. Muller & Co.
Belgium, 38 J. Cockerill Line
France, 10 Europ. Exp. Co.
Germany, 20 Jessop & Co.
Holland, 120 W. Smith
" 20 W. T. Bruce & Co.
" 10 J. Barber & Co.
" 17 L. & I. D. Jt. Co.
" 22 Argo S.S. Co.

Coal Products—
Aniline
Belgium, 28 pks. J. Cockerill Line
Germany, 6 cks.2 cs. L. & I. D. Jt. Co.
" 5 3 "
Tar
N. Russia, 416 cks. P. J. Danischewsky

Colours
Germany, 4 pks.7 cs. Argo S.S. Co.
Holland, 8 T. H. Lee
" 1 W. Harrison & Co.
Spain, 4 brls. J. Hall&Co.
Belgium, 8 cks. Burrell & Co.
" 3 pks.1 John Cockerill Line
France, 4 cks. A. Hartrodt
Belgium, 20 pks. J. Cockerill Line
Germany, 4 Argo S.S. Co.
" 50 kgs. J. H. Lee
Holland, 2 cks.3 C. Atkins & Nisbet
Belgium, 4 brls.J. & R. Grant
U.S.A., 2 pks. G. W. Sheldon & Co.
France, 6 H. Johnson, Sons & Co.
Holland, 3 cks. W. H. Muller & Co.
Germany, 2 London & Rhine S. Co.
" 10 kgs. Brandran, Bros. & Co.
" 9 pks. L. & I. D. Jt. Co.

Copper Ore—
N.S.W., 13 t. H. Grey, jun.

Cottonseed Oil—
U.S.A., 100 brls. Prop. Hay's Wf.
" 200 trcs. W. Manning

Cream of Tartar—
France, 4 cks. Fuerst Bros.
Holland, 20 Kirkpatrick, Barr & Co.
France, 4 15 kgs. B. & F.
" 6 pks. Wharf Co.

Dextrine—
Holland, 3 t. 10 c. J. Barber & Co.

Disinfectants—
France, £21 Mory & Co.

Dyestuffs
Annatto Extract
Denmark, 1 tnk. C. G. Sorenson
Argols
Spain, 1,814 bgs. B. Jacob & Sons
Italy, 629 "
Spain, 162 cks. Thames S. T. & L. Co.
Dyewood Extract
U.S.A., 20 pks. H. C. Barnes & Co., Ld.
Gambier
Straits, 90 bgs. E. Boustead & Co.
" 215 S. Barrow & Bros.
Hemlock Extract
Canada, 55 cks. Hoare, Wilson & Co.
Indigo
E.I ndies, 9 chts. L. & I. D. Jt. Co.
" 5 Hanns & Angel
Belgium, 5 "
Myrabolans
E. Indies, 1,452 bgs. Winser & Co.
" 1,113 pks. France, Fenwick & Co.
" 308 bgs. Hoare, Wilson & Co.
Belgium, 1,074 E. J. Winser
" 1,961 pks. & Co.
Myrabolan Extract
E. Indies, 760 bxs. Dalton & Young
Oakwood Extract
France, 105 cks. Levinstein & Sons
Sumac
E. Indies, 3 chts. Argo S.S. Co.
Tanners' Bark
Natal, 103 t. J. T. Rennie, Son & Co.
" 39 J. J. Williamson & Son
Cape, 51 H. J. Perlbach & Co.
Natal, 20 France, Fenwick & Co.
Tanners' Extract
France, 30 cks. J. Graves
Aust. Hung., 52 brls. Boutcher, Mortimore & Co.
Tannin Extract
France, 18 cks. Beresford. & Co.
" 30 Johnson, Sons & Co.
Valonia
A. Turkey, 20 t. T. J. & T. Powell

Earth Colours (*otherwise undes.*)—
Germany, 3 cks. London
" 200 bgs. & Rhine S. Office
Holland, 2 cks. W. H. Muller
" 133 pks. & Co.
Germany, 16 brls. W. Danz
Italy, 44 cks. W. Harrison & Co.

Farina—
Holland, 2 t. J. Barber & Co.
" 30 Bennett's H. Co.

Formaldehyde—
Belgium, £40 R. W. Greeff & Co.

Glue—
U.S.A., £400 W. Davis
Belgium, 726 T. M. Duche & Sons
France, 20 L. & I. D. Jt. Co.
Germany, 10 Prop. Hay's Wf.
France, 196 G. T. Symons & Co.
" 990 Bennett S.S. Co.
Belgium, 440 T. M. Duche & Sons
Germany, 40 R. Herrmann
France, 75 Mory & Co.
Belgium, 81 A. Price & Co.
France, 40 J. Harrison
Germany, 45 L.& I. D. Jt. Co.
Holland, 201 Van Dam & Co.
Belgium, 125 Leach & Co.
" 70 J. Harrison& Co.
" 65

Glue Stock—
E. Indies, 3 t. 15 c. Props. Tower Bdge Wf.
Victoria, 19 "

Glue Stock—
Victoria, 3 t. 9 c. Lampson & Co.

Glycerine—
N. Zealand, £283 Humphery & Co.
Holland, 61 Fuerst Bros.

Gold Concentrates—
N. Zealand £128 Vivian, Younger & Co.
" 1,920 Talisman

Kainit—
Germany, 525 t. F. W. Berk& Co.

Lead Acetate—
Belgium, £50 R. W. Greeff & Co.

Linseed Oil—
Holland, 10 brls. Phillipps
" 9 cks. & Graves
Belgium, 9 dms. Palmer & Co.

Lithopone—
Holland, 8 cks. Felton & Crepin

Magnesite—
Holland, £25 J. F. Ebner
" 40 W. Danz
" 10 W. H. Muller & Co.
Italy, 365 J. W. Cook& Co.
Germany, 60 L. & I. D. Jt. Co.
" 81 Argo S.S. Co.

Magnesium Chloride—
Germany, £32 F. J. Ebner

Magnesium Ore—
Germany, 6 t. B. & F. Wf. Co.

Ochre—
Spain, a qty. Silicate Paint Co.

Olive Oil—
Belgium, 32 gals. Trapp & Sons
Italy, 50 C.S. Lovell & Sons
" 4 t.126 Stebbing & Co.
" 84 Crosse & Blackwell
France, 1 156 Gill & Duffus
" 12 T. Trappe & Sons
Italy, 189 A. C. Lloyd
France, 40 L. & I. D. Jt. Co.
A. Turkey, 11 198 Adams Brs.
France, 150 Wainwright Bros. & Co.
Greece, 2 Halikiopule&Co.

Paraffin Scale—
U.S.A., 147 t. 15 c. Anglo-American Oil Co.

Paraffin Wax—
Germany, 2 t.
" 19 14 c. H. Hill & Sons
U.S.A., 10 L. & I. D. Jt. Co.
Germany, 10 L. & I. D. Jt. Co.

Phosphate—
France, 227 t. Odams M. & C. Co.

Phosphoric Acid—
France, £100 Atkins & Nisbet

Plumbago—
Ceylon, 92 brls.
" 154 Thredder, Sons & Co.
" 56 Hall & Co.
" 96 G. R. Haller

Potash—
Belgium, £260 J. Owen

Potassium Bicarbonate—
Holland, 9 cks. A. & M. Zimmermann

Potassium Bichromate—
Germany, £60 J. M. teel & Co.

Potassium Chlorate—
Germany, 100 kgs. H. G Thomas
Sweden, 40 J. Boor & Co.

Potassium Oxalate—
Belgium, £35 A. & M. Zimmermann
Holland, 40 R. W. Greeff & Co.

Pyrogallic Acid—
Holland, £47 W. H. Muller & Co.
" 4 cs.

Red Lead—
Holland, 64 cks. J. L. Lyon & Co.
" 8 Felton & Crepin

Red Lead—
Germany, 19 cks. J. Barber & Co.

Rosin—
U.S.A., 3,000 brls. Rosin & Turp. Imp. Co.
France, 120 Watt & Son
N. Russia, 29 cks. E. J. Walkinshaw
Sweden, 101 brls. Taylor Bros.
Holland, 142 pks. Van Dam & Co.

Salicylic Acid—
Germany, 5 cs. L. & I. D. Jt. Co.
Belgium, 5 pks. J. Cockerill Line

Saltpetre—
Germany, 1005 c.P. Hecker & Co.
E. Indies, 241 t. 7 Lucas & Spencer's Wf.

Scheelite Ore—
N. Zealand, 10 t. Shaw Saville & Albion

Silver Concentrates—
N. Zea., £1,800 Talisman Con.,Ld
" 94 Vivian, Younger & Co.

Silver Ore—
U.S.A., £1,000 B. Ackerley & Son

Soap—
U.S.A., £575 W. Davis
" 150 Amer. Exp. Co.
Canada, A., 503 Armour & Co.
Germany, 15 L. & I. D. Jt. Co.
France, 44 Mory & Co.
U.S. 185 W. Davis
" 28 Armour & Co.
Holland, 47 W. H. Muller & Co.
Belgium, 60 B. & F Wf. Co.
France, 12 Hulett & Sons
U.S.A., 143 L. & I. D. Jt. Co.
" 250 Butler & Crispe
" 127 Field & Co.
" 272 Lunham & Moore
Italy, 40 Cross & Co.
France, 43 Vokins & Co.
" 24 Mory & Co.
Germany, 21 L. & I. D. Jt. Co.

Soap Powder—
Germany, £152 London & Rhine S. Office
U.S.A., 133 Mercantile Ltge. Co.
Germany, 490 London & Rhine S. Office

Soapstock—
Belgium, £15 Forwood, Bros. & Co.
U.S.A., £6 Lunham & Moore

Soda—
Germany, 5 t. R. W. Greeff & Co.
France, 10 c. Leach & Co.

Soda Ash—
Belgium, 25 t. F. W. Berk & Co.

Sodium Acetate—
France, 10 t. J. Harrison

Sodium Salicylate—
Germany, 1 t. 5 c. T. H. Lee

Starch—
France, 4 t. C. E. Wood
U.S.A., 4 9 c. Mercantile Lge. Co.
Holland, 8 Little & Johnston
" 5 Kearley & Tonge
" 2 Kay & Mayo
Belgium, 2 Leach & Co.
" 7 5 E. & T. Pink
France, 5 A. C. Hitchcock
Germany, 1 Pronk, Davis & Co.
Belgium, 1 10 G. W. Sheldon & Co.
Holland, 11 10 J. Barber & Co.
" 1 W. H. Muller & Co.

Stearine—
Belgium, 63 bgs. H. Hill &Son
" 25 G. Jennings
" 63 D. C. Thomas
" 38 Meyerstein & Co.
" 63 G. Jennings

Strontium Nitrate—
Germany, £30 Jessop & Co.

Sulphur—
Italy, 50 Jessop & Co.
" 43 Sparks, White & Co.

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Talc—
France, £22 Blackwell, Sons & Co.

Tallow—
N.S.W., 48 cks. Phillipps & Graves
N. Zealand, 488 Knight Bros.
" 429 Anning & Cobb
" 24 Humphery & Co.
" 570 J. Owen
" 319 J. Morrison&Co.
" 104 L. & I. D. Jt. Co.
" 9 Weber, Smith & Hoare
" 8 Flack, Chandler & Co.
" 213 Dalgety & Co.
" 303 Leach & Co.
" 385 Goad, Rigg & Co.
" 264 Thornsett & Fehr
" 11 Clyde S. Co.
U.S.A., 100 Phillipps & Graves
Belgium, 371 C. Took
France, 5 H. Carey
N.S.W., 33 H. Hill & Sons
N. Zealand, 36 Bank of N.Z.
" 32 N.Z. L. & M.A. Co.
" 80 Prod. Brokers Co.
" 37 Phillipps & Graves
" 8 Boran Bros.
" 11 Flax, Chandler & Co.
" 10 Saderson, Mory & Co.
" 20 L. & I. D. Jt. Co.
" 6 J. Greig
" 19 Hill & Sons
Germany, 4 Cook & Co.
N.S.W., 98 Phillipps & Graves
Queensland, 27 J. Greig
N. Zealand, 33 Clyde Shipping Co.
" 7 Webster, Smith & Hoare
" 7 L. & I. D. Jt. Co.

Tartaric Acid—
Italy, 23 cks. H. Finkler & Co.
" 4 Devon & Co.
" 5 pks. R. W. Greeff & Co.
Holland, 24 cks. B. & F.Wf.Co.

Turpentine—
N. Russia, 204 brls. London Storage Co.
U.S.A., 1,962 Nickoll & Knight
" 16,047 c. London Oil Storage Co.
N. Russia, 53 brls. Linck, Moeller & Co.

Ultramarine—
Germany, 1 ck. Daggan, Neel & Co.
Belgium, 2 J. Harrison
Holland, 4 6 pks. Muller & Co.
Belgium, 4 Felton & Crepin

Wax—
Germany, 9 bgs. T. H. Lee
Victoria, 11 cs. Lampson & Co.
Italy, 43 Anglo-Italian Ex. Co.
Germany, 5 Argo S.S. Co.
" 26 bgs. London & Rhine S. Office
Germany, 28 L. & I. D. Jt. Co.
" 19 cs. "
" 12 pks. Barber & Co.
Durban, 36 bgs. J. Owen
Itlay, 6 P. J. Johnson
Germany, 5 Windschuiegh & Co.
Japan, 25 cs. G. H. Green
Germany, 10 Prop. Hay's Wf.
" 27 L. & I. D. Jt. Co.
" 10 bgs. Wilkins, Campbell & Co.
" 39 pks. T. H. Lee

White Lead—
Germany, 53 cks. Spies, Bros. & Co.
U.S.A., 20 Weber, Smith & Hoare
" 29 brls. Greeff & Co.
Belgium, 45 cks. G. Farmiloe & Sons
U.S.A., 47 Pinchin, Johnson & Co.

Zinc Oxide—
Germany, 10 cks. C. S. Lovell & Son
Holland, 10 cks. F. T. Nye
U.S.A., 50 Greeff & Co.
" 850 brls. M. Ashby, Ld.
Germany, 50 cks. Weber, Smith & Hoare

Zinc White—
Germany, 125 cks. Spies, Bros. & Co.
" 50 W. Rose & Co.
" 20 Staly, Radford & Co.

LIVERPOOL.

Week ending October 26.

Arsenic—
Oporto, 55 cks.

Asbestos—
Rotterdam, 23 bls.

Barytes—
Rotterdam, 131 pks.
Antwerp, 19 cks.

Barium Sulphate—
Antwerp, 72 cks.

Beeswax—
Hamburg, 14 pks.

Castor Oil—
Antwerp, 14 brls.
Leghorn, 5 cs.
Calcutta, 125

Chemicals (*otherwise undescribed*)
Bordeaux, 25 cks.
Rotterdam, 2 cs.

Cottonseed Oil—
New York, 220 brls.

Coal Products—
Tar Oil
Gothenburg, 1 ck.

Colours—
Rotterdam, 11 pks
Antwerp, 4 brls.

Copper Ore—
Iquique, 55 bgs.
A'fagasta, 2,888 sks.
Bremen, 1,233
New York, 963
Montreal, 1,928
Lisbon, 6 brls.
Singapore, 1,551 bgs.
Huelva, 460 sks. 3,291,980 kilos
Callao, a qnty.

Cream of Tartar—
Bombay, 1 ck.

Dried Blood—
River Plate, 476 bgs.

Dyestuffs—
Cutch
Rangoon, 250 bxs.
Singapore, 1,127
Dyewood Extract
Philadelphia, 105 brls.
Gambier
Singapore, 181 bgs.
Myrabolan Extract
Calcutta, 136 cs.
Tanners' Extract
Bayonne, 100 cks.
Bordeaux, 175
Baltimore, 60 brls.
Bombay, 298

Farina—
Danzig, 415 bgs.

Felspar—
Christiania, 6 bgs.

Glue—
New York, 10 brls.
Antwerp, 43
Marseilles, 80
Boston, 16

Glycerine—
Rotterdam, 50 dms.
Calcutta, 10
River Plate, 6

Linseed Oil—
Rotterdam, 58 brls.

Manganese Ore—
Bombay, 2,700 t.

Olive Oil—
Marseilles, 12 cs.
Bordeaux, 242
Genoa, 70

Oxalic Acid—
Rotterdam, 9 cks.

Paraffin Wax—
Amsterdam, 350 bgs.

Paraffin Scale—
Rangoon, 400 bgs.

Phosphates—
Ghent, 2,200 bgs.

Phosphorus—
Montreal, 135 cs.

Plumbago—
Hamburg, 26 cks.

Potash—
Hamburg, 44 cks.
Montreal, 5 brls.
Hamburg, 20 dms.

Potassium Chlorate—
Gothenburg, 10 cks.

Pyrites (Iron)—
Huelva, 2,985 t. Matheson & Co.

Rosin—
Bordeaux, 13 cks.
Bayonne, 197

Rubber—
Genoa, 126 bgs. 91 rls.
Philadelphia, 132 pks.
New York, 11 cs.
Lisbon, 539
Calcutta, 1 cht.
Antwerp, 81
Bombay, 5 cs.
Parnahyba, 16 bls.
Bahia, 36 33 brls.
Assinee, 46 cks.
Grand Lahou, 37
Grand Bassa, 1
S. Leone, 1
Singapore, 60 cs.

Salt—
Hamburg, 500 bgs.

Stearine—
River Plate, 431 bgs.

Silver Ore—
Callao, A qnty.
Salaverry, 48 bgs. A. Gibbs & Co.
" 100 Gruning & Co.

Soap—
Boston, 512 cs. W. Foggitt
" 104 pks.
Marseilles, 512

Soap Stock—
Baltimore, 100 brls.

Starch—
Danzig, 20 bgs.
Antwerp, 355 cs.
Bremen, 800
Warrington, 400
Ghent, 20
Dunkirk, 465
Amsterdam, 1
Philadelphia, 100 brls.

Tallow—
Boston, 100 brls. 7 pks.
Tocoma, 577
Seattle, 204
New York, 51 trcs.
Hamburg, 360 pks.

Tin Ore—
A'fagasta, 1,300 bgs.

Wax—
New York, 103 brls.
Baltimore, 100
Bathurst, 11
Warrington 20 cs.

Wax (Vegetable)—
Kobe, 24 cs.

White Lead—
N. York, 19 brls. 50 kgs.

Wolfram Ore—
H. Kong, 2,191 bgs.

Zinc Oxide—
Rotterdam, 25 cks.
Antwerp, 8 brls.

Zinc White—
Marseilles, 16 cks. 4 brls.

MANCHESTER.

Week ending October 26.

Barium Sulphate—
Treport, 29 cks.

Barytes—
Rotterdam, 100 bgs.

Caustic Potash—
Treport, 5 dms.

Chemicals (*otherwise undescribed*)
Rouen, 21 cks.
Rotterdam, 5 kgs. 27 brls.

Coal Products—
Alizarine
Rotterdam, 20 cks.

Colours—
Boston, 1 kg. 135 bgs.
Rotterdam, 81 cks. 190 pks. 41 brls.
Treport, 1

Cream of Tartar—
Rotterdam, 4 cks.

Farina—
Rotterdam, 2,490 bgs.

Formaldehyde—
Rotterdam, 6 bgs.

Glue—
Rouen, 29 cks.
Rotterdam, 3 118 bgs.
Antwerp, 80 brls.

Litharge—
Rouen, 10 cks.

Oxalic Acid—
Rotterdam, 2 cks.

Potassium Chlorate—
Treport, 44 cks.

Potassium Prussiate—
Antwerp, 15 cks.

Soap—
Rotterdam, 2 cs.

Sodium Acetate—
Antwerp, 36 cks. J. T. Fletcher & Co

Sodium Chlorate—
Gothenburg, 40 cks.

Sodium Nitrate—
Rouen, 10 cks.
Treport, 29

Sodium Prussiate—
Rotterdam, 36 cks.

Starch—
Dunkirk, 50 bgs.
Rotterdam, 50 60 cs.
Antwerp, 140 J. T. Fletcher & Co.
Antwerp, 861

Ultramarine—
Rotterdam, 7 cs.

Zinc White—
Rotterdam, 5 cks.

Zinc Oxide—
Antwerp, 40 brls

HULL.

Week ending October 26.

Barytes—
Rotterdam, 100 cks. Hull & N.
300 bgs. S.S. Co.
Amsterdam, 151 cks. "

Chemicals (*otherwise undescribed*)
Dunkirk, 100 cks. Wilsons & N.E. R. S. Co.
Rotterdam, 9 7 cs. Hull & N
4 pks. S.S. Co.

Coal Products—
Alizarine
Rotterdam, 107 pks. Hull & N. S.S. Co.
" 6 cks.
Aniline
Rotterdam, 430 pks. Hull & N. S.S. Co.
Aniline Salt
Rotterdam, 22 cks. Hull & N. S.S. Co.
Tar
Hango, 1,300½ brls. J. Good & Sons

Colours—
Antwerp, 93 pks. 4 cs.
New York, 200
Rotterdam, 60 cks. Hull & N. S.S. Co.
Bremen, 24 Veltmann & Co.

Farina—
Antwerp, 20 brls.
Harlingen, 300 bgs.

Formaldehyde—
Stettin, 6 brls.

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Glue—
Rotterdam, 5 bgs. Hull & N. S.S. Co.
Linseed Oil—
Hamburg, 300 brls.
Amsterdm, 282 Hull & N. S.S. Co.
Olive Oil—
Smyrna, 258 brls.
Potash—
Cronstadt, 10 dms.
Soda—
Ghent, 50 bgs.
Starch—
Antwerp, 230 cs.
Bremen, 1,520
Rotterdam, 6 Hull & N. S.S. Co.
Bremen, 1,429 pks. Veltmann & Co.
White Lead—
Antwerp, 9 cks.
Rotterdam, 77 Hull & N. S.S. Co.
Zinc Oxide—
New York, 280 kgs.
Rotterdam, 3 brls.
Zinc White—
Rotterdam, 28 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending October 26.

Castor Oil—
Coconada, 20 cks.
Marseilles, 10 cs.
Chemicals (*otherwise undescribed*)
Rouen, 10 cks.
Glue—
New York, 303 brls.
Iron Ore—
Malaga, 2,200 t.
Linseed Oil—
Calcutta, 4,092 bgs.
Olive Oil—
Smyrna, 70 brls.
Soap—
New York, 1,000 bxs.
Boston, 4 cs.
Soda Crystals—
Ghent, 100 bgs.
Zinc Oxide—
New York, 250 brls.

TYNE.

Week ending October 26.

Coal Products—
Tar
Gothenburg, 50 cks.
Copper Oxide—
Hamburg, 34 dms. Tyne S.S. Co.
Iron Ore—
Santander, 1,300 t.
Algiers, 3,500 R. Hoyle & Co.
Bilbao, 3,000
Linseed Oil—
Rotterdam, 116 brls. Tyne S.S. Co.
Red Lead—
Rotterdam, 10 cks. Tyne S.S. Co.
Starch—
Rotterdam, 90 cs. Tyne S.S. Co.
Zinc White—
Antwerp, 120 brls. Tyne S.S. Co.

GOOLE.

Week ending October 26.

Barytes—
Antwerp, 200 bgs.
Bog Ore—
Harlingen, 60 t.
Caoutchouc—
Boulogne, 7 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 6 cks. / 135 bgs.
Boulogne, 25 9 cs.
Hamburg, 127 13 160 cbys. 4 pks. 9
Rotterdam, 83 46 bgs. 6 dms.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 254 bgs. / 29 cks. 3 cs.
Boulogne, 7 25
Hamburg, 349 50
R'terdam, 1,162 60
Farina—
Amsterdam, 60 bgs.
Rotterdam, 55
Glue—
Antwerp, 27 bgs.
Rotterdam, 2
Magnesite—
Amsterdam, 100 bgs.
Phosphate—
Antwerp, 1,827 bgs.
Salt (Waste)—
Hamburg, 300 t. / 120 cks. 5 bgs.
Starch—
Antwerp, 20 cs.
Hamburg, 1 ck. / 100 bgs.

GRIMSBY.

Week ending October 26.

Acetic Acid—
Fredrksstad, 145 cks.
Barytes—
Antwerp, 50 bgs.
Rotterdam, 155
Calcium Carbide—
Christiania, 12 cs. 148 dms.
Caoutchouc—
Hamburg, 57 cs.
Antwerp, 10
Chemicals (*otherwise undescribed*)
Hamburg, 13 cks. 5 cs.
Antwerp, 17
Rotterdam, 13
Colours—
Hamburg, 9 cks. 27 pks.
Antwerp, 51 97
Ferro Chrome—
Dieppe, 11 cks.
Glue—
Antwerp, 10 bgs.
Plumbago—
Antwerp, 5 cks.
Salt—
Antwerp, 2 cs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending October 30.

Alumina Sulphate—
Sydney, 1 cs. £6
Ammonia—
Singapore, £26
Santiago, Chili, 12 cs. 9
Valparaiso, 6 11
Calcutta, 15 22
Madras, 4 6
Talcahuano, 8 12
Mauritius, 4 6
Perth, 6 18
Fremantle, 1 t. 22
Delagoa B., 6 36
Karachi, 7 37
Santiago, 10 9
A'fagasta, 5 5
Colombo, 4 12
Bombay, 40 dms. 63
Durban, 2 c. 9
Ammonia (Anhydrous)—
Bombay, 6 cs. £54
Libau, 3 19
Ammonium Carbonate—
Demerara, 1 t. £39
Santiago, Chili, 10 cs. 38
Desterro, 2 6
Libau, 25 kgs. 35
Brussels, 5 cks. 13
Antwerp, 8 13
Ammonium Muriate—
Delagoa B., 2 c. £5
Melbourne, 1 t. 1 25
Cologne, 5 14 116
Ammonium Sulphate—
Demerara, 60 t. £722
Mauritius, 200 2,475
Colombo, 18 210
Hamburg, 50 660
Yokohama, 200 2,400
Moji, 102 10 c. 1,227
Antimony—
New York, 5 t. 2 c.
Perth, 10
Riga, 1
Antimony (Regulus)—
Antwerp, 1 t. 15 c.
Gothenburg, 1
Hamburg, 1 10
New York, 10 4
Antimony Sulphide—
Treport, 12 cks. £214
Arsenic—
Durban, 6 dms. £10
Barytes—
Antwerp, 3 t. 4 c. £13
Bone (Waste)—
Ghent, 8 t. £32
Borax—
Fremantle, 5 t. 5 c. £12
Delagoa Bay, 8 8 133
Rotterdam, 1 17 82
Boric Acid—
Delagoa Bay, 1 t. £20
Bromide Salts—
Fremantle, 40 cks. £532
Calcium Carbide—
Christiania, 2 cs. £9
Wellington, 1 t. 1 c. 38
Caustic Soda—
Cape Town, 8 c. £8
Sydney, 7 10
Chalk—
Boston, 620 t.
Calcutta, 3
Chemicals (*otherwise undescribed*)
Algoa Bay, 133 pks. £34
Ostend, 1 cs. 320
Bombay, 1 6
Karachi, 2 6
Calcutta, 4pks. 3 59
Dunedin, 80 16
Cape Town, 3 16
Trinidad, 9 49
Boston, 6 285
Hong Kong, 2 21
Cologne, 10 179
Durban, 1 8
Christiania, 1 ck. 72
Libau, 2 28
Brussels, 5 66
Montreal, 175 20 1,290
Bremen, 14 640
E London, 5 21
Ostend, 1 10
Madras, 10 kgs. 10
Singapore, 2 3 7
Hamburg, 4 cs. 111
Citric Acid—
Alexandria, 4 c. £37
Colombo, 3 12
Citric Acid—
Wellington, 6 cs. £35
Durban, 1 18
Hamburg, 11 c. 94
Calcutta, 6 63
Melbourne, 3 t. 10 330
Marseilles, 1 178
Penang, 2 24
Vera Cruz, 1 192
Coal Products (*otherwise undes.*)—
Suez, 6 cks. £5
Coal Products—
Aniline Oil
New York, 30 dms. £715
Anthracene
Cologne, 300 cks. £356
Benzol
Treport, 32 cks. £48
Carbolic Acid
Montreal, 5 cs. 13
Amsterdam, 71 cks. 242
Melbourne, 20 dms. 8
H. Kong, 28 12
Christiania, 13 cidons. 15
Boston, 40 cks. 249
Sydney, 5 7
Carbolic Acid (Powder)
Adelaide, 20 kgs. £6
Creosote
Boston, 50 cks. £82
Creosote Oil
Helsingfors, 100 cks. £73
Hydrocarbon
Brussels, 25 dms. £270
Cologne, 37 28
Mirbane
New York, 40 cs. £100
Naphthaline
Durban, 6 cks. £14
N. Orleans, 490 150 bgs. 713
St. Petersburg, 567 150
Pitch
Fremantle, 2cks. 5 brls. £15
,, 30 frkns.
Rangoon, 100kgs. 75cks. 64
Antwerp, 1,770 t 2,212
Gravelines, 135 169
Yokohama, 100 33
Nantes, 670 861
Alexandria, 100 brls. 28
Cette, 1,350 2,126
Helsingfors, 275 401
Tar
Hamburg, 5 cks. £13
Helsingfors, 800 451
Tar Oil
Sydney, 20 dms. £9
Coal Products—
Tar Salts
New York, 15 cks. £150
Toluol
Treport, 50 cks. £84
Montreal, 1 kg. 4
Copper Sulphate—
Rotterdam, 7 t. 5 c. £165
S.Petersburg, 5 117
Trinidad, 10 10 246
Fremantle, 1 213
Cologne, 5 106
Trinidad, 1 2 32
Montreal, 25 579
Cottonseed Oil—
Antwerp, 6 t. 2 c.
Bordeaux, 13 12
Con'nople, 8 4
Dunkirk, 4 18
Rotterdam, 25 16
Amsterdam, 8 11
Marseilles, 5 2
Cream of Tartar—
Durban, 10 c. £42
Fremantle, 2 8
Cyanide (*otherwise undescribed*)—
Fremantle, 14 t. £1,130
Sydney, 1 4 c. 297
Disinfectants—
Rio de Jan., 200 dms £200
Beira, 3 cs 8
Karachi, 570 2 54
Bombay, 35 12
Nice, 60 3
Singapore, 60 pks. 8
Bangkok, 30 12
Grenada, 10 11
Perth, 3 9
Valparaiso, 5 9
Shanghai, 7 9
Antigua, 2 cks. 13
Boston, 10 150
Napier, 2 6
Durban, 7 17
Marseilles, 4 15
Channel Is., 3 10
New York, 45 162
Rangoon, 30 kgs 8
Libau, 1 16
Cologne, 5 88
Cochin, 150 dms. 144
St. John's, 2 11
Melbourne, 24 dms. 31
Sydney, 35 cks. 73
Colombo, 2 14
Singapore, 3 2 dms. 24

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Glue—
Singapore, 1 t. 7 c.

Glycerine—
Durban, 1 c. £6
Boulogne, 1 5
Amsterdam, 20 t. 6 20

Guano—
Demerara, 15 t. £121

Linseed Oil—
Albany, 8 c.
Alexandria, 4 t.
Auckland, 5 8
Bangkok, 2 6
Bussorah, 19
Calcutta, 4 4
Cape Town, 1 2
Colombo, 1 10
Demerara, 1 6
Durban, 5 11
E. London, 1 3
Fremantle, 5 18
Grenada, 6
Hong Kong, 1 8
Invercargill, 5 3
Karachi, 1 6
Lyttelton, 4
Mauritius, 2 10
Melbourne, 25 12
Mollendo, 2 14
Penang, 6
Perth, 6 14
Pt Elizabeth, 5
Rangoon, 3 9
Rio de Jan., 1 15
Singapore, 1 14
Sydney, 8 14
Trinidad, 11
Wellington, 8
Yokohama, 22 7
Antofagasta, 1 14
Azores, 1 14
Beira, 2
Bluff, 1
Bombay, 2 16
Brussels, 18 19
Hamburg, 10 9
Lisbon, 13
Madras, 1 4
Rio Grande, 1 13
St. Johns, 2 15
Santiago, 2
Valparaiso, 1 19

Magnesite Calcined—
Perth, 10 kgs. £10

Manure—
Durban, 66 t. 19 c. £198
St. Lucia, 13 6 123
Brest, 520 3,540
Bordeaux, 21 147

Muriatic Acid—
Durban, 10 c. £7

Nitric Acid—
Karachi, 1 c. £6
Fremantle, 2 t 7 70
Cape Town, 4 6
Cadiz, 6 £7

Phosphoric Acid—
Sydney, 10 cks. £113

Phosphorus—
Adelaide, 10 cs. £66
Sydney, 10 70

Phosphorus (Amorphous)—
Bombay, 1 cs. £4

Potash—
New York, 18 c. £58
Suez, 5 6

Potassium Chlorate—
Rio de Jan., 1 c. £5
Sydney, 10 t. 102

Potassium Cyanide—
Mossel Bay, 3 c. £11
Madras, 14 65

Potassium Sulphide—
Toronto, 5 kgs. £14

Salammoniac—
Calcutta, 4 c. £6
Rosario, 5 11

Salt—
Bluff, 2 t. 10 c.
Delagoa Bay, 2
Fremantle, 2

Saltpetre—
Adelaide, 5 kgs. £7
Bombay, 3 c. 6
Algoa Bay, 25 cs. 14

Sheep Dip—
Montreal, 5 brls. £9
Monte Video, 3 t. 75
B. Ayres, 18 2 c. 500

Soap—
Auckland, 13 c.
Bombay, 4 t. 1
Boulogne, 3
Calcutta, 1 11
Channel Islands, 9
Colombo, 6
Demerara, 2
Durban, 4
E London, 2 16
Flushing, 5
Grenada, 4
Halifax, 7
Lisbon, 10
Mauritius, 1 7
Melbourne, 1
Napier, 13
Naples, 3
Nelson, 1
Pt. Elizabeth, 15
Rangoon, 18
St. Helena, 13
Singapore, 1 14
Toronto, 8
Trinidad, 7 9
Alexandria, 2 13
Bangkok, 17
Beyrout, 2
Fremantle, 1
Ghent, 1 4
Gibraltar, 1 19
Hamburg, 4
Hong Kong, 15
Iquique, 5
Karachi, 2
Kobe, 2
Libau, 1
Limon, 4
Madras, 1 4
Malta, 14
Montreal, 17
New York, 3
Ostend, 5
Penang, 5
Piræus, 2
Pt Swettenham, 4

Sodium Bicarbonate—
Singapore, 3 cs. £8
Aden, 1 t. 1 c. 6

Sodium Prussiate—
Kobe, 11 c. £57

Sodium Sulphate—
Hango, 250 t. £400

Sodium Sulphite—
Toronto, 10 c. £53

Starch—
B. Ayres, 10 c.
Channel Is., 6
Delagoa Bay, 5 t. 15
Fremantle, 2 5
Hobart, 1
Karachi, 17
St. Helena, 1
Barbadoes, 2
Beira, 4
Calcutta, 13
Christiania, 2
Montreal, 5 10
Starch, 2
Smyrna, 2

Sulphate of Lime—
Toronto, 5 kgs. £34

Sulphur—
Philadelphia, 4 t. 13 c. £147
Nagasaki, 14 cks. 14
Wellington, 2 t. 49
Sydney, 8 cks. 11
Delagoa Bay, 1 t. 2 14

Sulphuric Acid—
Karachi, 3 c. £8
Bombay, 1 t. 12 45
Trinidad, 16 11
Demerara, 10 62
Beira, 2 16
Colombo, 15 8
Mauritius, 1 2 3
Auckland, 4 2
Nagasaki, 1 13
Channel Is., 18 10

Superphosphates—
Demerara, 46 t. £170

Tallow—
Brussels, 3 t. 13 c.
S. Petersb'g, 100
S. Sebastian, 100 3
Christiania, 1 19
Copenhagen, 8 18
Danzig, 52
Hamburg, 15 1
Konigsberg, 20

Tartaric Acid—
Lyttelton, 1 cs. £15
Kobe, 2 t. 15 c. 255
Talcahuano, 8 cs. 16

White Lead—
Adelaide, £145
Auckland, 349
Calcutta, 300
Cape Town, 21
Colombo, 360
Fremantle, 463
Madras, 392
Perth, 155
Sydney, 329
Wellington, 83
Delagoa Bay, 26

Zinc Chloride—
Colombo, 7 cs. £12

LIVERPOOL

Week ending October 25.

Acetic Acid—
Tunis, 3 c £6
Hsin Ho Wf., 1 cs. 1

Alum—
Pt. Alegre, 7 t. 7 c. £43
Santos, 5 2
Brisbane, 10 4
Christchurch, 18 5
Wellington, 1 5
Malaga, 2 11
Alexandria, 2 1
B. Ayres, 4 18 25
Volo, 1 15 10
Boca, 15 6 90
Galatz, 7 6 23
Bourgas, 1 19 10
Smyrna, 1 17 10
Wellington, 10 3
Adelaide, 19 5

Alum (Waste)—
H. Kong, 2 t. 12 c. £7

Alumina Sulphate—
Pt. Madryn, 1 cs. £1
Madras, 4 t. 4 c. 25

Ammonia—
Valparaiso, 5 cs. £5
Conception, 3 3
St. John's, 1 1
Trinidad, 2 2

Ammonium Carbonate—
B. Ayres, { 1 hhd. / 10 c. £48
New York, 2 t. 10 70
Rosario, 19 32
Durban, 2 4
Trieste, 17 35
Galatz, 8 14
Rouen, 1 19 62
Palermo, 4 6

Ammonium Muriate—
Odessa, 1 t. 2 c. £26
Galatz, 3 4 69
Naples, 1 24
Genoa, 6 8
Yokohama, 4 12 110
New York, 11 264
Stockholm, 18 22
Venice, 19 23
Volo, 6 7
Piræus, 1 2 26
Bourgas, 11 13
Marseilles, 2 8 58
Oporto, 1 24
Pt. Madryn, 2 cs. 3
Philadelphia, 15 16 c. 376

Ammonium Sulphate—
New York, 60 t. £721
Las Palmas, 30 364
Valencia, 205 2 c. 2,459
Sta. Cruz, 10 121
Las Palmas, 2 24
Accra, 2 cs. 10
Montreal, 30 364
Bari, 12 146
Alicante, 10 115
Baltimore, 50 4 c. 627
H. Kong, 10 120
Patras, 15 14 189
Barbadoes, 20 6 242
Las Palmas, 6 75
Yokohama, 185 4 2,123
Valencia, 50 600
Tarragona, 10 120
Las Palmas, 32 15 397
Teneriffe, 5 60
Lisbon, 19 14 241
Valencia, 35 9 412
Alicante, 5 58
New York, 41 13 467
Barcelona, 50 581
Valencia, 349 13 1,227

Ammonium Sulphide—
Hsin Ho Wf., 1 cs. £1

Antimony Sulphide—
Lisbon, 1 t. £52

Anturic Salts—
Piræus, 1 pcl. £1

Barium Aluminate—
N. Orleans, 16 c. £28

Barium Sulphate—
Vera Cruz, 1 ck. £3

Basic Slag—
Gijon, 30 t. £45
Bilbao, 10 15
Tarragona, 20 30
Oporto, 99 8 c. 150

Bleaching Powder—
Baltimore, 64 cks.
B. Ayres, 12 dms.
Cape Town, 100
Madras, 8
Montreal, 692 66 brls.
New Orleans, 99
New York, 138 35
Oporto, 29
Phila'phia, 110
Boston, 441
Calcutta, 585
Genoa, 29
Ghent, 29
New York, 81
Portland, 158
Rotterdam, 29
Ghent, 30
New Orleans, 92
Phila'phia, 156
Valparaiso, 50

Bones
Seville, 19 t. 16 c. £119
Antwerp, 5 19 30
Mexico, 8 8
Havre, 15 17 120
Philadelphia, 3 1 39

Boracic Acid—
Vancouver, 15 c. £20
Genoa, 10 8
Leghorn, 10 13

Borax—
Bombay, 2 t. 10 c. £40
St. Croix, 1 kg. 1
Santiago, 4 cks. 15
Vera Cruz, 1 t. 19 30
Vancouver, 1 5 20
Pt. Arenas, 2 3
Gijon, 5 18 100
Malta, 10 8
Volo, 19 16
Havana, 1 9 36
New York, 1 16 2 19
Singapore, 10 38
Sydney, 5 80
Havana, 18 15
Leghorn, 10 26
Calcutta, 2 10 40

Calcium Carbide—
Hsin Ho Wf., 2 cs. £2

Calcium Chloride—
Sydney, 15 t. 2 c. £30
Wellington, 2 12 5
Montreal, 4 12 9
M. Video, 5 15
Madeira, 1 2 3

Caustic Potash—
Malmo, 2 c. £3
Melbourne, 2 t. 12 78
Manaos, 2 2

Caustic Soda—
Alexandretta, 300 dms.
Alexandria, 12 bxs. 100
Amsterdam, 7
Ancona, 70
Auckland, 53 cs.
Beyrout, 100
Brazil, 250
Calcutta, 43
Campeche, 40
Cape Town, 30 106 5
Chemulpo, 100
Corinto, 30
Corral, 60
Costa Rica, 4
Copenhagen, 11 brls.
Durban, 4
Fiume, 75
Galatz, 476
Genoa, 50 518
Gibraltar, 13
Havana, 40
Hiogo, 100
Karachi, 245
Kobe, 345
Madras, 7
Lisbon, 200
Lyttelton, 30
Madagascar, 20
Melbourne, 30
Messina, 38
Moji, 40
M. Video, 15 drms. 55
Montreal, 150 bgs. 1,150
Oporto, 25

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Caustic Soda—

Piræus, 80 dms.
P. Elizabeth, 34
P. Columbia, 30
Rangoon, 9
Rosario, 79
Rotterdam, 5 cks. 58
20 brls.
Singapore, 21
Spain, 25
Tampico, 175
Tientsin, 17
Valparaiso, 75
Venezuela, 30
Volo, 40
Wellington, 6
Yokohama, 327
Acapulco, 35
Bahia, 245
Barcelona, 60 cks. 220
Cardenas, 28
Catania, 60
Chemulpo, 25
Delagoa Bay, 6
Durban, 48
La Guayra, 20
Lisbon, 30
Malaga, 70 16
Malmo, 1 4
Manaos, 3
Messina, 15
Mexico, 69
Montreal, 1
M. Video, 150 brls. 275
Nelson, 15 10
Newcastle, 15
Pacasmayo, 10
Para, 8
Pt. Elizabeth, 191 24 pks.
Puerto Caballo, 20 dms.
Quebec, 25
Rio de Jan., 80
Rotterdam, 27
Rouen, 35
San Blas, 40
Seville, 600
Stockholm, 70
Sydney, 28
Varna, 105
Wellington, 15
Adelaide, 29
Ancona, 204
Barcelona, 40 cks. 170
Bari, 72
Brazil, 100
B. Ayres, 35
Christiania, 225 t.
Cienfuegos, 10
Delagoa Bay, 15 20
Durban, 19 pks.
45 128 dms.
Galveston, 602
Gefle, 76
Genoa, 105
Hamburg, 26
Havana, 40
Karachi, 46
Lisbon, 100
Lyttelton, 10
Melbourne, 30
Messina, 5
Mexico, 90
Montreal, 70 brls
New York, 20
Oporto, 36
Para, 5
Pernambuco, 120
Pt Elizabeth, 20
Quebec, 12
Rangoon, 30
Rio de Jan, 5
Rio Grand. do Sul 9 20
Rouen, 65
Seville, 602
Tarragona, 270
U.S.A., 24
Valencia, 30
Wellington, 30 cs.
Cienfuegos, 1

Chemicals (*otherwise undescribed*)

Sekondi, 40 cs. £320
Barcelona, 20 32
B. Ayres, 300 dms. 826
Genoa, 2 cks. 10 kgs. 20
Ancona, 10 16
New York, 12 110
Madras, 10 80
Vera Cruz, 35 30 80
H. Kong, 51 pks. 6
Dunedin, 48 brls. 19
Odessa, 10 cks. 135 220
Venice, 25 36
Gatibonies, 2 t 2 c. 56
Black River, 1 2
Rotterdam, 40 cks. 158
Pt. Madryn, 1 cs. 1 4
Toronto, 20 30

Chemicals (*otherwise undescribed*)

Melbourne, 25 cks. £37
Montreal, 48 213
Lyttelton, 2 13
Galatz, 3 brls. 17
Salonica, 1 5
Patras, 2 7
Trieste, 10 38
Tampico, 3 pks. 67
B. Ayres, 300 dms 826
Samarang, 48 69
Sourabaya, 3 8
Bombay, 13 13
Hamburg, 10 cks. 67

Citric Acid—

Montreal, 10 c. £97
Malta, 1 11

Coal Products—

Aniline Salt

Piræus, 10 brls.
Yokohama, 18 kgs.
Lisbon 4 cks.
Varna 7

Carbolic Acid

Amapala, 1 dm.

Carbolic Acid (Crystals)

Hamburg, 1 btl. £1

Carbolic Acid (Solid)

Hamburg, 66 cks. 12 c. £502
Yokohama, 5 t. 262
Quebec, 2 114
Bordeaux, 12 30
Leghorn, 19 51
Venice, 10 26
Genoa, 10 30
New York, 1 55
Rotterdam, 5 3 276
Calcutta, 4 6
N. Orleans, 3

Creosote Salts

Bordeaux, 80 bgs.

Copperas—

Bahia, 17 c. £3
Teneriffe, 1 1
M. Video, 4 t. 12 10
Las Palmas, 5 12 15
Cape Colony, 17 2

Copper Sulphate—

Nantes, 17 c. £572
Varna, 24 t. 70
Balawan, 3 18 173
Corunna, 7 22
Bordeaux, 1 12 595
Samarang, 24 19 70
Sourabaya, 2 1 520
Melbourne, 22 553
Sydney, 23 229
Alexandria, 19 22
Rotterdam, 10 2 206
Antwerp, 15 15 341
Palermo, 8 111
Bombay, 2 10 58
Karachi, 1 5 25

Copper Sulphocyanide—

Rio de Jan., 2 c. £6

Cottonseed Oil—

Bordeaux, 5 brls.
Galatz, 35
Genoa, 50
Gibraltar, 48
Sapeli, 20 dms.
Algiers, 25
Bathurst, 35
Dakar, 180
Norrkoping, 6
Rufisque, 25
Assini, 3
Marseilles, 56
Tangiers, 55

Cream of Tartar—

Lisbon, 1 kg. £4

Dextrine—

Vera Cruz, 6 cks.

Disinfectants—

Calabar, 2 cs. £42
24 dms.
Calcutta, 4 brls. 23
Bathurst, 1 cs. 1
Lisbon, 40 25
Antwerp, 6 br'ls. 24
Kingston, 1 kg. 1 cs. 2
Christchurch, 41 brls. 10
Singapore, 50 39
Durban, 41 pks. 20
E. London, 150 83
Pt. Elizabeth, 90 30
C. Town, 5 cks. 30
Abonnema, 1 cs. 4
Auckland, 8 25
Melbourne, 100 57
Bonny, 1 2
Madras, 20 20 bgs. 12

Dried Blood—

Teneriffe, 1 t. 10 c. £14

Glycerine—

Madras, 5 t. 1 c. £223
St. Johns, 1 17 71
Quebec, 2 9 129
New York, 20 4 647
Montreal, 53 13 2,162
Montreal, 58 12 2,418
Colombo, 1 3
Hamburg, 4 18 197

Hydrochloric Acid—

Hsin Ho Wf., 19 c. £11

Hydrofluoric Acid—

Hsin Ho Wf., 1 cs. £1

Lead Nitrate—

Montreal, 14 t 6 c. £460

Linseed Oil—

Alexandria, 92 brls.
Arica, 30 dms.
Coquimbo, 100
Delagoa Bay, 5 cs.
Guayaquil, 40
Havana, 4
Maranham, 5 cks. 10
Panama, 100
Pt. Stanley, 5 brls.
Para, 5 30 12
Piræus, 2 46
Puerto Padre, 58 cs
Salonica, 18 brls.
Valparaiso, 280
Varna, 25 28
Adalia, 3
Galatz, 5
Guayacan, 20
Havana, 35 bdls.
Karachi, 25
Kingston 160
Nassau, 25
Port Said, 10
Taltal, 10
Alexandretta, 12
Antofagasta, 600
Belize, 15
Boma, 10
B. Ayres, 135
Constantinople, 10
Corfu, 1
Genoa, 7
Manaos, 11 80
Manzillo, 6 hhds.
Tripoli, 15
Monte Video, 25
Port Said, 2 4
Salonica, 18
St. John's, 9
Santiago, 3
Smyrna, 6
Soc. Islands, 50
Treiste, 3
Trinidad, 7

Magnesia—

B. Ayres, 1 hhd. £4
Amapala, 1 c. 4

Magnesium Carbonate—

Bilbao, 19 c. £17
Vera Cruz, 2 3
Bordeaux, 2 t. 10 40
Havre, 2 10 44

Magnesium Citrates—

Barcelona, 7 c. £35

Magnesium Sulphate—

Benguela, 1 c. £2

Manure—

Antwerp, 32 bgs. £15
La Union, 20 t. 220
Las Palmas, 20 248
Hamburg, 25 307
New York, 75 286
Philadelphia, 47 7 73
Lisbon, 9 17 18

Muriatic Acid—

Manaos, 1 cs. £1
Monte Video, 2 1

Nitric Acid—

Hsin Ho Wf., 4 c. £4
Cindad Bolivar, 1 cs. 2

Oxalic Acid—

Boston, 4 t. 1 c. £133
Montreal, 1 12 58
Hobson's Bay, 14 18
Kobe, 3 5 60

Paraffin Wax—

Genoa, 100 bgs.
Bari, 10
Khios, 10 45 cs.
Naples, 80
B. Ayres, 5
Cabedello, 10

Phosphoric Acid—

Eten, 15 c. £25

Phosphorus—

Hsin Ho Wf, 1 cs. £2
Shanghai, 1 t. 15 c. 260

Potash—

Para, 2 c. £1

Potassium Bicarbonate—

Montreal, 3 c. £4

Potassium Bichromate—

Christchurch, 1 t. 3 c. £35
Montreal, 2 5 66
Volo, 12 20
Nauplia, 13 21

Potassium Carbonate—

Santos, 2 t. £39

Potassium Chlorate—

La Guayra, 10 t. £300
Pasages, 4 120
Corunna, 1 32
Danzic, 10 242
Bilbao, 1 35
Naples, 7 7 223
Palermo, 19 30
Christiania, 6 5 188
Rio de Jan., 2 60
Valparaiso, 1 2

Potassium Cyanide—

Tultenago, 18 t. 7 c. £1,820
Galveston, 15 1,389

Potassium Prussiate—

Vera Cruz, 1 t. 13 c. £90

Potassium Silicate—

Amsterdam, 1 t. 5 c. £10

Potassium Stannate—

Bombay, 1 t. 19 c. £204

Salammoniac—

Trieste, 1 t. 9 c. £60
Piræus, 4 7
Salonica, 1 2 42
Acajutla, 1 ck. 1
Trieste, 1 t. 10 ck. 56

Salt—

Amsterd'm, 881 t.
Burutu, 269
Copenhagen, 400 bgs.
Delagoa Bay, 25 cs.
Gibraltar, 3,980 cwt. 2,004
Gothenburg, 30
Halifax, 2,400 sks.
Lahou, 300
Montreal, 4,069 3,840
New Orleans, 500
New York, 60
Rio del Rey, 6 t. 14 c.
Victoria, 6 14
Adelaide, 15
Antwerp, 445 60 cs.
Baltimore, 140
Barbadoes, 25
Bombay, 5
Brass, 43 15 c.
B. Ayres, 59 8
Calabar, 3,000
Calcutta, 300 cs.
Conakry, 42 16
E. London, 288 sks.
Ghent, 2,500 100
Halifax, 5,153
Hamburg, 510
Durban, 1,301
Kribi, 10,650
Longji, 140
Monrovia, 500
Montreal, 12,978
Galveston, 55
Philadelphia, 10 t
Pt. Elizabeth, 20
Portland, 150
Pt Maria, 200
P. Arenas, 24 9 c.
Rangoon, 25
St. John's, 5 6
Sydney, 20
Talcahuano, 50
Traagisva'g, 262
Trinidad, 82 3
Baltimore, 96
Christiania, 225
Lisbon, 60
Antwerp, 540 250 cs.
Benin, 30 3 c.
Boston, 120
Brass, 10
B. Ayres, 11 16 100 cs.
Buguma, 20
Burutu, 25
Calcutta, 3,522
Cameroon, 1,768 bgs.
Cape Town, 200 sks.
Demerara, 1,120
Dunedin, 31 t. 3,500

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Salt—
Ghent, 1,000 sk.
G. Lahou, 3,375
Gd. Bassam, 1,000 bgs.
Lagos, 1,875 4,117
Lahou, 1,000
Landana, 250
La Plata, 1,800
Laurvig, 200
Las Palmas, 500
Manaos, 1,000
Manilla, 50
Maranham, 200
Melbourne, 50 t.
Monte Video, 50 cs.
Montreal, 3,380 sks.
N. Orleans, 2,970
Portland, 225 t.
Rio Gran. del S., 100
Sekondi, 11 3 c.
Trinidad, 53
Valparaiso, 8 1
Para, 166 2
P. Elizabeth, 24 10
Shanghai, 50 cs.

Saltcake—
Leghorn, 1,942 bgs.
Lisbon, 520

Saltpetre—
Para, 10 brls. / 1 t. 19 c. £66

Sheep Dip—
B. Ayres, 27 t. 2 c. £789
Durban, 1,500 dms. / 2 18 218
Kingston, 1 cs 4
Guayaquil, 1 3
Stanley, F.I., 27 5 c. 45 136
E. London, 6 100
Pt. Elizabeth, 16 10 326

Soap—
Acajutla, 2 cs.
Alexandria, 20 bxs.
Antwerp, 203
Auckland, 5
Bangkok, 1,350
Belawan Deli, 320
Bluefields, 100
Bombay, 10 2,413
Bourgas, 27
B. Ayres, 253
Burutu, 100
Calcutta, 63 pks. / 142
Cameroons, 250
Canaria, 132
Candia, 25
Cape Town, 81 22 100
Conakry, 122
Curacao, 700
Delagoa Bay, 50
Demerara, 200
Duala, 20
Dunkirk, 1,478
Durban, 20 dms. / 2 105
France, 3
Genoa, 40 pks. 4
Gibraltar, 136 150
Guayaquil, 60 20
Karachi, 114
Kingston, 350
Kotonou, 10
Kribi, 8 175
Lagos, 545
La Guayra, 2
Lanzarote, 60
Limassol, 15
Lisbon, 20
Madras, 113
Madeira, 71
Malta, 24 19
Martinique, 100 bdl. 100
Nagasaki, 30
New York, 56
Oporto, 10
Penang, 1,650
Piræus, 12
Pt. Elizabeth, 11
Pt. Louis, 2,000
Pt. Stanley, 50
Rangoon, 270
Rotterdam, 1,290
St. Johns, 47
Sandakan, 100
San Juan, 200
Sekondi, 20
Shanghai, 1,000
Sierra Leone, 660 21
Singapore, 350 400
Smyrna, 286
Tanga, 125
Tangiers, 220
Teneriffe, 213
Tobajo, 100
Tumaco, 100

Soap—
Accra, 200 bxs.
Alexandria, 19 cs.
Arrecife, 32
Assini, 35
Axim, 100
Bahia de Caraquez, 448
Bathurst, 40
Beira, 65
Bombay, 1,283
Bonny, 100
Calabar, 7 278
Calcutta, 21
Colombo, 2 pks.
Colon, 1,150
Constantinople, 100
Delagoa Bay, 1 75
Durban, 2 50
East London, 215
Eloby Islands, 31
Fernando, 53
Gaboon, 100
Genoa, 2
Grand Bassam, 54
Hong Kong, 1,000
Malta, 12 sks.
Hsin Ho Wf., 10
Iquitos, 95 bdls.
Jamaica, 160
Kingston, 5 3,242
Kribi, 201
Las Palmas, 448
Limassol, 30
Madagascar, 250
Madras, 45
Malta, 8 5
Mexico, 1
Nelson, 4 7
Sierra Leone, 100
Victoria, 40
Warri, 544
Wellington, 20
Bombay, 1,170
Calabar, 100
Calcutta, 250
Cape Town, 945 pks.
Congo, 30
Delagoa Bay, 71 650
Durban, 225 bdls. 585
Congo, 30
Delagoa Bay, 10
Demerara, 150
Ghent, 100
Grenada, 2 425
Hong Kong, 1 40
Karachi, 12 687
Kobe, 3
Lahou, 50
Manilla, 700
Montserrat, 410
Montreal, 84
Piræus, 10
Rangoon, 1,696
Sapeli, 600
Shanghai, 300
Singapore, 525
Tangier, 135
Trinidad, 100
Valparaiso, 10
Warri, 500
Para, 1,077
Port Elizabeth, 250
Port Said, 35
Pt. Swettenham, 500
Rangoon, 1,225
Rotterdam, 1,250
St. Johns, 6
St. Vincent, 675
Saltpond, 125
Santa Cruz de Teneriffe, 56
Santiago de Cuba, 3
Sapeli, 200
Sekondi, 220

Soap Extract—
Auckland, 104 skl-cs. 2 tnks.

Soap Powder—
Ghent, 100 bxs.

Soapstone—
Melbourne, 23 kgs.

Soda—
Boston, 40 cks.

Soda Ash—
Calcutta, 14,100 brls. / 29 cks.
Havana, 8
Manaos, 20 kgs.
Rio de Jan., 100 30
Salonica, 75
Stockholm, 1,040
Tientsin, 840
Victoria, 80
Yokohama, 2,150
Zante, 46

Soda Ash—
Adelaide, 30 cks.
Calcutta, 4
Brazil, 30
B. Ayres, 10
Callao, 10
Copenhagen, 350 bgs.
Gefle, 97
Gothenburg, 600
Genoa, 1 cs. / 2,070 bgs.
Hiogo, 75 1,150
Karachi, 425
Kingston, 20 dms
Lyttelton, 33
Madras, 22
Malta, 15
M. Video, 25
Montreal, 1,633
Oporto, 14
Rotterdam, 100
Rio de Jan., 140
San Blas, 50
Tientsin, 200 2,360
Valparaiso, 30
Venice, 100
Vera Cruz, 100
Wellington, 37
Yokohama, 2,350

Sodium Arseniate—
Port Elizabeth, 240 dms.

Sodium Bicarbonate—
Alexandria, 10 brls
Asuncion, 10 kgs.
Barcelona, 105
Bombay, 12
B Ayres, 100
Calcutta, 2,122
Crete, 10
Durban, 130 bgs. 20
Galatz, 28
Genoa, 200
Gibraltar, 14
Gijon 37
Halifax, 570
Hiogo, 1,000
Jaffa, 10
Karachi, 845
Madras, 3 cks. 150
Malta, 30
Melbourne, 100
Montreal, 160 405 / 1,000 bgs.
Mossel Bay, 5
Palermo, 4 65
Piræus, 65
Rangoon, 145
Singapore, 20
Valencia, 6 85
Venice, 8 cks. 170
Wellington, 160 10
Yokohama, 500 500
Calcutta 250
La Union, 5
Norrkoping, 1
B. Ayres, 238
Calcutta, 500
Galatz, 66 dms.
Hamburg, 40 kgs.
Hiogo, 1,000
Progresso, 25
Varna, 22 / 164 dms.

Sodium Carbonate—
M. Video, 50 dms.
Amsterdam, 30 bgs.
Cabedello, 6 cks.

Soda Crystals—
Bombay, 12 brls.
Corfu, 37
Coquimbo, 50
Delagoa Bay, 51 kgs.
Durban, 14
Gibraltar, 30
Guayaquil, 50
Madras, 15
Montreal, 200 cks. 100 / 2,400 bgs.
Mossel Bay, 40
Punta Arenas, 165 / 25 brls.
Sydney, 20
B. Ayres, 1,016 kgs
Demerara, 30 brls.
Pt Elizabeth, 50 100
Stanley, 25

Sodium Hyposulphate—
Barcelona, 2 cs.
Melbourne, 18 cks.

Sodium Nitrate—
Lisbon, 18 kgs.

Sodium Peroxide—
Patras, 1 cs.

Sodium Prussiate—
Barcelona, 10 cks.
St Petersburg, 18 kgs.

Sodium Silicate—
Barcelona, 187 cks.
Corinto, 20 brls.
Galveston, 5
Genoa, 336 bgs.
Lisbon, 369 60
Mexico, 20
M. Video, 45
Montreal, 80 100
Oporto, 32
Philippine Islands, 40
Seville, 150
Spain, 50
Braila, 81
Delagoa Bay, 3
Galatz, 75 100
Genoa, 677
Lisbon, 48
Melbourne, 38
Messina, 203 1
Montreal, 100
Nelson, 40
Piræus, 43
Portland, 100
Rotterdam, 33
Salonica, 37
Torreon, 500
Winnipeg, 175

Sodium Sulphate—
St. Petersburg, 117 dms.
Montreal, 7½ brls.

Sodium Sulphide—
Varna, 4 dms.
Punta Arenas, 6 cks.
Wellington, 40 kgs.

Starch—
Maranham, 8 bgs.

Sulphur—
Montreal, 75 t. £311
New York, 1 6
St Thomas, 1 c. 2
Bahia, 1 7
C. Town, 10 4
Palermo, 19 30
Christiania, 75 375
Victoria, S C, 2 10 20
Cindad Bolivar, 1 cs. 1
Para, 5 2

Sulphuric Acid—
Monte Video, 2 cs. £1
Natal, 11 c. 7
Hsin Ho Wf, 2 2
Guayaquil, 6 5
Hamburg, 15 5

Superphosphate—
Seville, 277 t. 5 c. £776
Corunna, 11 19 36
Teneriffe, 33 40
Las Palmas, 7 18
Zante, 5 17

Tallow—
Gibraltar, 12 brls.
Marseilles, 144 cks.
St. Peterb'g, 140
Bombay, 3
Catania, 16
Gd. Bassam, 12
Sierre Leone, 20 dms.
Vigo, 3
Ancona, 18
Benguela, 1
Braila, 28

Tartaric Acid—
Delagoa Bay, 1 kg. £6
Durban, 3 t. 1 c. 50

Wax—
Catania, 10 pks.

Wax (Vegetable)—
New York, 10 cs.

Zinc Chloride—
Bombay, 10 t. 2 c. £125

Zinc Muriate—
Quebec, 5 t. 14 c. £38
Bombay, 24 5 316

MANCHESTER.

Week ending October 29.

Ammonium Muriate—
Rotterdam, 14 cks.

Antimony Sulphide—
Melbourne, 2 cks.

Bleaching Powder—
Philadelphia, 42 cks.

Bones—
Antwerp, 78 bgs.

Caustic Soda—
Lattakia, 9 dms.

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Caoutchouc—
Bagdad, 1 cs.
Chemicals (*otherwise undescribed*)
Beyrout, 14 brls.
Sydney, 20 kgs.
Montreal, 400 bgs.
Rouen, 2 cks.
Coal Products—
Aniline Oil
St. Petersburg, 44 dms.
Aniline Salts
Alexandria, 40 brls.
St. Petersburg, 265 pns.
Boston, 20
Pitch
Antwerp, 136 t.
Colours—
Bagdad, 32 cks.
Copperas—
Bussorah, 37 brls.
Glue—
Antwerp, 10 cks.
Alexandria, 1
Boston, 1
Rouen, 100 bgs.
Glycerine—
Germany, 60 dms.
Philadelphia, 200
Linseed Oil—
Bagdad, 10 dms.
Beyrout, 10 brls.
Mineral White—
Antwerp, 42 cks.
Naphthylamine—
Germany, 25 cks.
Salammoniac—
Bussorah, 10 brls.
Salt—
St. John's, N.B., 3,000 sks.
Quebec, 500 t.
Rotterdam, 250
Soap—
Alexandria, 200 bxs.
Soda Ash—
Lattakia, 30 brls.
Soda Crystals—
Aleppo, 16 brls.
Jaffa, 22
Sfax, 30 bgs.
Sodium Acetate—
Montreal, 7 cks.
Sodium Prussiate—
Boston, 26 brls.
Starch—
Rotterdam, 10 bgs.
Stearine—
Rotterdam, 30 brls.
Tallow—
Bombay, 8 brls.
Turpentine—
Bagdad, 2 dms.

HULL.

Week ending October 26.

Ammonia—
Alexandria, 4 cs. £6
Karachi, 13 pks. 27
Ammonium Sulphate—
Dunkirk, 250 bgs.
Italy, 550
Marseilles, 300
Rouen, 300
Antimony—
New York, 175 cks.
Bleaching Powder—
New York, 35 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 100 cks.
Antwerp, 13
Christiania, 1 brl. / 10 / 50 bgs. 4 dms. / 912 pks.
Konigsberg, 6
G'henburg, 180 35 / 68 cs. 10 kgs. / 3 brl.
Naples, 30
New York, 35 5 10 dms.
Rouen, 50 bgs.
Rotterdam, 55 1 cs. 5 pks.
St. Petersburg, 110 kgs.
Stettin, 10 brls.
Stockholm, 13
Coal Products—
Creosote
Stockholm, 150 cks.
Naphtha
Rotterdam, 18 dms.
Pitch
Antwerp, 100 t.
Dunkirk 100 1 brl.
Helsingfors, 374 bgs.
Tar
Rotterdam, 10 brls.
Colours—
Alexandria, 621 kgs. / 87 cks. 9 cs. 14 dms.
Amsterdam, 8
Bergen, 1
Bremen, 30 390
Gothenburg, 5
Ghent, 2 brls. / 2 cs.
Leghorn, 3 43
Marseilles, 11
Naples, 1 50 pks.
N. York, 45 31 / 130 brls.
Rouen, 30
Rotterdam, 28 34 dms.
Stavanger, 1 2 cs
Stettin, 29 5
Zeebrugge, 3
Cottonseed Oil—
Amsterdam, 2 t. 10 c.
Bergen, 1 14
Drontheim, 17
Gothenburg, 2 13
Dunkirk, 1 1
Hamburg, 11 4
Konigsberg, 12
Rouen, 5
Rotterdam, 8 2
Dyestuffs (*otherwise undescribed*)—
Antwerp, 28 cks.
New York, 45 dms.
Glue—
Bergen. 21 bgs.
Linseed Oil—
Alexandria, 1 t. 17 c.
Bremen, 16 6
Copenhagen, 1 15
Christiania, 4 8
Drontheim, 1 1
Ghent, 1
Hamburg, 5 17
Phosphate—
Dunkirk, 4 cks.
Phosphorus—
Newfairwater, 20 cs.
Salt—
Antwerp, 13 cs.
Dunkirk, 385 bgs.
Soap—
Alexandria, 5 brls.
Christiania, 319 cs.
Dunkirk, 40
Riga, 7
Starch—
Copenhagen, 100 cs.
Christiania, 2pks.
Gothenburg, 120
Turpentine—
Copenhagen, 2 brls.
Christiania, 9
Gothenburg, 5
Wax—
Marseilles, 50 bgs.

GLASGOW.

Week ending October 26.

Ammonium Carbonate—
Syria, 1 t. 14 c.
Colours—
Madras, £45
Natal, 73
Rangoon, 32
Chemicals (*otherwise undescribed*)
Sivorne, £40
Genoa, 25
Coal Products—
Pitch
Quebec, £40
Sweden, 210
Rangoon, a qty.
Alexandria, ,,
Bombay, ,,
Tar
Calcutta, £125
Rangoon, a qty.
Alexandria, ,,
Bombay, ,,
Dyestuffs—
Tanners' Extract
Fiume, £913
Trieste, 24
Venice, 300
Farina—
Oporto, 8 t. 15 c. 2 q.
Antwerp, 1
Serampore, 2
Lead Nitrate—
Paris, 5 t. 4 c. 2 q.
Linseed Oil—
Bombay, 2 t.
Durban, 1 3 q.
Genoa, 8 7 c. 2
Egypt, 2 18 3
Syria, 1 8
Alexandria, 30 1 1
Litharge—
Johannesburg, 5 t.
Manure—
Jersey, 31 t. 1 c.
Olive Oil—
Bordeaux, £35
Potassium Cyanide—
Johannesburg, £823
Canada, 65
Paraffin Wax—
Natal, 2 t. 17 c.
Bombay, 1 3
Fiume, 19 3 q.
Oporto, 19 3
Venice, 19 8 2
Tunis, 1 3 2
Bordeaux, 6 11 1
S. America, 5 1
Talcahuano, 2 3
Potassium Bichromate—
Bordeaux, 1 t. 1 c. 3 q.
Bombay, 1
Venice, 18 2
Canada, 13 18 1
Montreal, 14 1 3
Sheep Dip—
Rio Gallegos, £80
San Julian, 40
Santa Cruz, 260
Soap—
Natal, 2 t. 9 c.
Rangoon, 3 3 q.
Sodium Arseniate—
Lisbon, 1 t. 11 c. 3 q.
Sodium Bichromate—
Montreal, 3 t. 2 c. 2 q.
Sodium Cyanide—
Johannesburg, £905
U.S.A., 1,306
Marfil, 2,718
Sulphuric Acid—
Colombo, £32
Superphosphates—
Durban, 25 t.
Jersey, 298 1 c.
Tallow—
Fiume, 11 c. 3 q.
Alexandria, 300 t. 7 1
Turpentine—
Alexandria, £78
White Lead—
Alexandria, 2 t. 19 c.
Zinc Oxide—
Lisbon, 12 c.

TYNE.

Week ending October 26.

Antimony (Regulus)—
Hamburg, 2 t.
Rotterdam, 17 10 c.
Montreal, 21
Barium Binoxide—
Hamburg, 21 t. 19 c. 1 q. 23 lb.
Venice, 17 16 1 23
Montreal, 3 1 1 18
Barium Carbonate—
Hamburg, 182 t. 3 c. 1 q.
Bleaching Powder—
Bergen and Trondhjem, 5 t. 3 c. 3 q. 20 lb.
Amsterdam, 10 2 2 24
Rotterdam, 4 18 3 26
Copenhagen, 40 1 6
Caustic Soda—
Copenhagen, 72 t. 17 c. 1 q. 16 lb.
Genoa, 24 3 1 2
Montreal, 50 4 1 24
Chalk—
Trieste, 10 t.
Chemicals (*otherwise undescribed*)
Montreal, 57 t. 8 c. 8 lb.
Coal Products—
Tar
Trieste, 6 c.
Linseed Oil—
Trieste, 17 c. 24 lb.
Litharge—
Amsterdam, 3 t. 2 c. 2 q. 18 lb.
Montreal, 9 2 2 6
Magnesia—
Genoa, 10 t. 7 c. 19 lb.
Montreal, 2 2 2 q. 2
Manure—
Lisbon, 746 t. 10 c. 12 lb.
Red Lead—
Amsterdam, 5 t. 5 c. 1 q. 27 lb.
Trieste, 15 3 22
Bergen and Stavanger. 2 4 3 10
Aalborg, 1 1 2 15
Hamburg, 6 17 2 18
Montreal, 20 7 3 15
Soda Ash—
Amsterdam, 2 t. 13 c. 2 q. 4 lb.
Soda Crystals—
Amsterdam, 43 t. 5 c. 3 q. 16 lb.
Sodium Hyposulphite—
Montreal, 15 t. 2 c. 2 q.
Sodium Sulphide—
Genoa, 10 t. 3 q. 4 lb.
Tallow—
Rotterdam, 3 t. 19 c. 2 q. 14 lb.
Turpentine—
Trieste, 1 q. 14 lb.
White Lead—
Trieste, 8 c.
Rotterdam, 7 1 q. 2 lb.
Copenhagen, 5 t. 8
Montreal, 88 9 1 1
Zinc Oxide—
Trieste, 8 c.

GOOLE.

Week ending October 26.

Chemicals (*otherwise undescribed*)
Amsterdam, 17 cks.
Antwerp, 35 cs.
Boulogne, 1
Dunkirk, 20
Hamburg, 62 157
Rotterdam, 36 14 dms.
Coal Products (*otherwise undes.*)—
Amsterdam, 124 cks.
Boulogne, 200
Hamburg, 209
Rotterdam, 25 15 dms.
Coal Products
Benzol
Boulogne, 62 cks. 31 dms.
Pitch
Antwerp, 1,376 t.
Colours—
Antwerp, 18 cks. 3 cs.
Boulogne, 15 7
Ghent, 14
Rotterdam, 15
Dyestuffs (*otherwise undescribed*)—
Antwerp, 47 cks. 7 cs.
Rotterdam, 31
Manure—
Boulogne, 92 bgs.
Rotterdam, 500

GRIMSBY.

Week ending October 26.

Chemicals (*otherwise undescribed*)
Hamburg, 30 kgs. / 36 brls.
Coal Products (*otherwise undes.*)—
Dieppe, 87 brls.
Colours—
Hamburg, 37 cks.
St. Thomas, 1 62 kgs.
Dyestuffs (*otherwise undescribed*)—
Rotterdam, 11 cs.
Soap—
Hamburg, 40 cs.

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PRICES CURRENT.

FRIDAY, November 8, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.	
Acids :—					
* Acetic, 25% and 40%	per cwt.	9/-	&	13/-	
* ,, Glacial	,,		40/-		
Arsenic S.G. 2,000°	,,		31/-		
* Fluoric	per lb.	0	0	4½	
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/-		
,, (Cylinder), 30° Tw.	,,	0	2	9	
* Nitric 80° Tw.	per ton	14	15	0	
* Nitrous nett	per cwt.	0	18	6	
Oxalic	per lb.	0	0	3¾	
Phosphoric, 1750°	,,	0	0	10½	
Picric	,,	0	0	11	
* Sulphuric (fuming 70%)	per ton	6	0	0	
* ,, (Pyrites, 168°)	,,	3	2	6	
* ,, (,, 150°)	,,		30/-		
* ,, (free from arsenic, 145°)	,,		36/-		
* Sulphurous (solution) S.G. 1025	,,	3	0	0	
Tannic	per lb.	0	1	3	
Tartaric	,,	0	0	11½	
*Acetone	per ton	82	10	0	
Arsenic, white powdered nett	,,	29	0	0	
*Alum, loose lump (delivered)	,,	5	12	6	
Alumina Sulphate (pure)	,,	4	7	6	
Aluminoferric (in slabs)	,,	2	12	6	
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0	
*Ammonia, Anhydrous	per lb.	0	1	1	
* ,, .880	per ton	24	0	0	
* ,, .920	,,	13	0	0	
,, Carbonate	per lb.	0	0	2½	
,, Muriate (grey)	per ton	25	0	0	
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-	
,, Nitrate	per ton	36	0	0	
,, Phosphate	,,	38	0	0	
,, Sulphate (grey), London	,,	12	0	0	
,, ,, ,, Hull	,,	12	2	6	
,, ,, ,, Manchester	,,	12	0	0	
*Aniline Oil (pure)	per lb.	0	0	5½	
Aniline Salt	,,	0	0	4½	
Antimony	per ton	42	0	0	
,, (tartar emetic) 43/44%	per lb.	0	0	9½	
,, (golden sulphide)	,,	0	1	3	
Barium Chloride	per ton	7	5	0	
,, Carbonate (native) 92/94%	,,	5	0	0	
,, Sulphate (native levigated)	,,	45/	to	65/-	
*Bisulphide of Carbon	,,	18	10	0	
Bleaching Powder, 35% nett	,,	4	7	6	
* ,, Liquor, 7%	,,	2	0	0	
Chromium Acetate (powder)	per lb.	0	0	5¾	
Calcium Chloride	per ton	2	10	0	
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6	
Coal Tar Products and Dyes :—					
Alizarine (artificial), 20% nett	per lb.	0	0	7	
Magenta	,,	0	2	3	
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾	
Benzol, 90's	per gallon	0	0	8¾	
,, 50/90	,,	0	0	8¾	
Carbolic Acid (crude 60°)	,,	0	1	8	
,, (crystallised 40°)	per lb.	0	0	5¼	
,, (liquid 95/97%)	per gallon	0	1	3	
* Creosote (ordinary), naked	,,	0	0	2¾	
* ,, (filtered for Lucigen light)	,,	0	0	3¼	
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½	
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0	
* Pitch, f.o.b. Liverpool or Garston	,,	1	3	0	
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3	
Copper	per ton	60	10	0	
,, Sulphate	,,	24	0	0	
,, Oxide (copper scales)	,,	50	0	0	
*Glycerine (crude), 80%	,,	33	10	0	
* ,, (distilled S.G. 1260°)	,,	60	0	0	
Iodine nett	per oz.	0	0	6	
*Iron Sulphate (copperas)	per ton	1	10	0	
,, Sulphide	,,	3	10	0	
Lead (sheet)	,,	20	0	0	
,, Litharge Flake (ex ship)	,,	22	15	0	
,, Acetate (white) ,,	,,	31	0	0	
,, ,, (brown) ,,	,,	26	0	0	
,, Carbonate (white lead), pure	,,	25	0	0	
,, Nitrate	,,	32	10	0	
Lime, Acetate (brown) (ex ship)	per ton	8	7	6	
,, ,, (grey) 80%	,,	12	10	0	
Magnesium (ribbon and wire)	per lb.	1	0	0	
,, Chloride	per ton	3	7	6	
,, Carbonate	per cwt.	1	17	6	
,, Calcined Magnesia	per ton	17	0	0	
,, Sulphate (Epsom Salts)	,,	3	0	0 *	
Manganese, Sulphate,	,,	17	10	0	
,, Borate	per cwt.	2	2	6	
,, Ore, 70%	per ton	7	15	0	
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5 *	
Naphtha (Wood), Solvent	,,	0	2	4 *	
,, ,, Miscible, 60° O.P.	,,	0	1	10 *	
Oils :—					
Cottonseed	per ton	24	5	0	
Linseed	,,	24	15	0	
Stearine	,,	32	0	0	
Phosphorus (yellow)	per lb.	0	1	5	
,, (red)	,,	0	1	11	
Potassium, Bichromate nett	,,	0	0	3½	
,, Carbonate, 90% (ex ship)	per ton	19	10	0	
,, Chlorate	per lb.	0	0	3½	
,, Cyanide, 98%	,,	0	0	8½	
,, Hydrate (Caustic Potash) 90%	per ton	25	10	0	
,, ,, ,, 75/80%	,,	21	0	0	
,, Potash Hydrate Liquid, 50%	,,	14	10	0 *	
,, Nitrate (refined)	,,	23	10	0	
,, Permanganate (small crystals)	per cwt.		36/-		
,, Prussiate (yellow)	per lb.	0	0	5½	
,, Sulphate, 90% (ex ship)	per ton	9	15	0	
,, Muriate, 80% ,,	,,	9	0	0	
Silver (metal)	per oz.	0	2	3 5/16	
Sodium (metal)	per lb.	0	3	0	
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0	
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Alkali), 58% (bags) ,,	,,	4	10	0	
,, ,, (Soda Crystals)	,,	2	17	6 *	
,, Acetate (ex ship)	,, ,,	17	5	0	
,, Arseniate, 45%	,, ,,	23	10	0	
,, Borate (Borax), Crystals	,, ,,	16	0	0	
,, Bichromate	,, per lb.	0	0	3	
,, Cyanide (100% basis)	,, ,,	0	0	7½	
,, Chlorate	,, ,,	0	0	3½	
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0	
,, ,, (74% C. Soda) ,, ,,	,,	10	15	0	
,, ,, (70% C. Soda) ,, ,,	,,	10	5	0	
,, ,, (60% C. Soda) ,, ,,	,,	9	5	0	
,, ,, (pure liq. 90° Tw.) ,, ,,	,,	4	15	0	
,, 77/78% powdered (99% hydrate)	per ton	12	10	0	
,, Bicarbonate (cwt. kegs)	,,	6	15	0	
,, Hyposulphite	,,	6	5	0	
,, Manganate, 25%	,,	20	0	0 *	
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	4½	
,, Nitrite, 98%	per ton	29	10	0	
,, Phosphate	,,	9	5	0	
,, Prussiate	per lb.	0	0	3⅝	
,, Silicate (glass)	per ton	5	5	0	
,, ,, (liquid, 100° Tw.)	,,	3	17	6	
,, Stannate, 40%	per lb.	0	0	9	
,, Sulphate (Salt-cake)	per ton	2	2	6 *	
,, ,, (Glauber's Salts)	,,	1	15	0 *	
,, Sulphide (crystals)	,,	6	5	0	
,, Sulphite	,,	6	5	0	
Strontium Hydrate, 100%	,,	9	0	0	
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾	
,, Barium, 95%	,,	0	0	3½	
,, Potassium	,,	0	0	7	
Sulphur (Flowers)	per ton	6	10	0	
,, (Roll Brimstone)	,,	6	5	0	
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6 *	
Superphosphate of Lime (26%)	,,	2	10	0	
Tallow	,,	33	10	0	
Tin Crystals	per lb.	0	0	10½	
,, English Ingots	per ton	140	0	0	
Zinc (Spelter)	,,	21	15	0	
,, Chloride (solution 100° Tw.)	,,	6	5	0 *	
,, Sulphate, Crystal	,,	7	10	0	

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* *Packages extra, or returnable.* Otherwise, prices usually include packages.

THE

CHEMICAL TRADE JOURNAL

AND

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LATE ADVERTISEMENTS.

TENDER.

RADCLIFFE AND PILKINGTON GAS COMPANY.
SPENT OXIDE.

THE Directors of this Company invite Tenders for the purchase of about 150 tons (more or less) of Spent Oxide. Samples for testing may be taken from the heap by any intending purchaser, or will be sent together with particulars on application to the undersigned. Tenders will be received until Friday the 22nd inst.

Gas Work, Radcliffe, November 13th, 1907.
James Praddock, Manager and Secretary.

SALE BY AUCTION.

RE THE SCOTTISH CYANIDE CO., LTD., (IN LIQUIDATION).

On WEDNESDAY, 18th and THURSDAY, 19th DECEMBER, 1907, at the KIRKLAND WORKS, LEVEN, FIFESHIRE, highly important and extensive Sale of

THE WHOLE PLANT, MACHINERY, AND EFFECTS,

comprising:—4 sets of Willans and Robinson "3T" triple-expansion Engines, with 8 Mather and Platt low-tension Alternators. Each engine is capable of giving out 800 h.p with 160 lbs steam pressure. 2 Korting's ejector condensers; 15 electric furnaces; 2 large Dowson gas producers, with blovers; 6 benches of regenerative gas retorts; 10 multitubular Lancashire steam boilers, 28 feet by 8 feet, for 160 lbs. pressure; 2 Green's economisers, consisting of 832 tubes, 9 feet long; large lot of circular and other vats; Johnson's filter presses; Linde refrigerating plant, distillation plant; 2 Johnson's brickmaking machines; and miscellaneous effects, by Auction (To be sold by instructions of Robert B. Lawrie, Esq., Liquidator), J. & R. EDMISTON will Sell by Public Auction. Catalogues on application to the Autioneers, at their Offices, 7, West Nile-street, Glasgow.

IMPORT, Working and Representation of Chemical Products. Factory near Berlin (Germany), large producer of Sulphuric Acid, Acetic Acid, Wood Alcohol, Formaldehyde and Solvents, with rail and water accomodation, also extensive storing places, takes over working of Chemicals for Home Trade and Re-exportation, and also Sole agency of suitable articles.—Address Mr. Hugo Blank, Derfflingerstr. 15, Berlin, W. Correspondence in English, French or German.

CHARCOAL:—Flake and Sawdust Charcoal on Sale in large quantities.—Apply, "1,564," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

MANAGER Wanted for Glue Works in England. Must be up-to-date and capable of making first-class glue from bones and from skins.—Replies, treated confidentially, giving full particulars of experience, salary required, etc., to "Glue," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CHEMICAL Plumber requires a Situation, experienced workman, good references.—"1,592," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

WANTED, Steam Exhauster to exhaust 10 to 12 thousand cubic feet per hour through 10 feet of water; send full particulars.—No. "1591," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

RESPONSIBLE position Wanted by gentleman with 15 years' experience in chemical trade; excellent book-keeper, knowledge of mercantile law, etc., and accustomed to control of office. First-class testimonials.—Box "1593," *Chemical Trade Journal*, Office, 265, Strand, London, W.C.

AGENCY.—Advertiser would like to Represent good provincial or foreign firm in London. Smart business man with excellent all-round experience in chemical trade, and well in with home and export buyers.—Apply Box "1,594," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

ANALYST required for accumulator works; must be well up in lead and acid analysis; one with a knowledge of electricity preferred; state age, experience and salary required to "X.Y.Z.," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CURRENT TOPICS.

THE CRISIS IN THE MONEY MARKET.

AS briefly recorded in our last issue, the Bank of England's minimum rate of discount now stands at 7%, and the factors which have resulted in such an abnormal state of things call for something more than passing comment. The Bank rate has not reached such a high level since 1873, when, as at the present time, speculation in America was largely responsible for the creation of such a demand for gold that the rate rose to 9%. The fact that the rates of the Bank of France, the National Bank of Belgium, and the Imperial Bank of Germany have also been raised is in itself sufficient indication that the existing state of things is regarded as a crisis.

The situation in the United States is a difficult one to assess. According to the *Economist* the banking panic is leaving New York and spreading over the United States generally; the inference is, therefore, that the panic will spend itself after destroying many unsound institutions, but that a long period marked by general distress, unwillingness to lend, inability to borrow, and a scarcity of money often approaching a famine, is now before the people of the United States. It is generally agreed that the drain upon the New York gold reserve, which has in turn been communicated to this country, is to a large extent caused by the hoarding of gold. It is stated that for some time depositors have been withdrawing their money from the banks and have preferred to store it in safe deposits, with the result that the United States, at a time when there is more bullion in the country than usual, is now suffering from a cash famine. The consequence is that gold has reached a high premium, and wages are being paid in cheques and in various forms of unofficial paper money.

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The New York *Nation* states that one of the causes for the present financial crisis in the States is what is known as the "chain banking system," which was initiated some six years ago, and which is described as a new order of things in American finance. Speculators bought a majority of shares in a trust bank, and thus secured control. Using the shares of this bank as security, they borrowed money, with which they obtained control of a second bank, and thus continued the process until, with a single outlay, they had secured the mastery of a chain of banks, the resources of which (exceeding by many times their own initial capital) they appropriated to the financing of their various speculative schemes. We are told that many operators of this kind were ruined by the great fall in copper, and the banks whose funds they had manipulated were wrecked in turn.

The situation in the States at the time of writing still remains uncertain. In a careful review of the whole situation, the *Financier and Bullionist* observes that financially, industrially, and politically, the whole country is passing through a period of trial and anxiety, and even the most far-seeing prophet cannot venture to predict the return to normal conditions of confidence and stability. Prominent New York bankers profess to believe that the worst is now over, but our financial contemporary points out that this opinion is not shared by other authorities throughout the country. From day to day fresh difficulties arise, and as every additional failure, whether of a bank or an industrial enterprise, increases the aggregate damage for which reparation or provision will ultimately have to be made, it is only natural that the future should be regarded with much misgiving. It is felt that the recent collapse will be the cause of a large amount of acute distress, which must be reflected in the future course of business of every description. The practical suspension of specie payments is a very serious matter, and must lead to embarrassing complications. Paper money (continues the *Financier*) may be an excellent medium when confidence is strong, but when credit breaks down, as it has recently done, the use of Clearing-House cheques or any other ingenious substitute for a State-guaranteed currency is calculated to provoke rather than to allay anxiety. The large issue of paper money is regarded with distrust, and complications containing all the germs of a fresh financial crisis may thus ensue.

The feeling in the country appears to be that the Government should take more vigorous and practical measures to restore confidence than those already adopted, and it is urged that the administration, in conjunction with the leading banks, should establish an effective control over and guarantee of the large issue of paper money now being made. Until this is done it is considered unreasonable to hope for any general recovery of confidence.

The prospect of a period of depression in the United States cannot be contemplated on this side with any satisfaction. The collapse has resulted in monetary troubles, of which this country has had to bear the brunt. The co-operation of the Bank of France has been secured to some extent—proving the international relations between the money markets of the world,—but, as is clearly shown by the *Financier and Bullionist* in the review to which we have already alluded, we have everything to lose, financially and commercially, by the prolongation of the crisis, and with the Bank Rate at 7% the situation cannot be regarded as other than serious. The influence of the high rate is now being felt in the slackening of the drain of gold from this country to America, and it is evident that the leading New York bankers are making a strenuous attempt to meet the situation. The immediate effect on American trade and industry cannot be otherwise than serious, but the recuperative powers of the country are phenomenal, and its future prosperity will be the more lasting because it will be founded on a firmer and more satisfactory financial system.

THE NITRATE POSITION.

A startling change has within the last few weeks come over the nitrate scene, and the condition of the market is probably causing its supporters more anxiety than at any time since the renewal of the "Combination" in April, 1906. Thanks to adroit manipulation, supplies in the consuming countries have hitherto been kept within bounds, but only at the expense of a steady accumulation of stocks in Chili; at the beginning of November these reached no less than 13,300,000 quintals or 600,000 tons, against 11,204,000 quintals last year, 9,220,000 in 1905, and 8,204,000 in 1904, three months' output being thus on hand, instead of the normal two.

This plethora of nitrate awaiting shipment was in itself a sufficiently disturbing factor, but matters have been brought to a climax by the financial crisis in Chili, due in great measure to the flotation, within the last three years, of countless companies for the exploitation of nitrate deposits. After long remaining indifferent to the industry which constitutes, in the shape of export duties, the principal item in the State revenues, the Chilians suddenly decided to claim a share in the enormous profits made by English, German, and Spanish producers. Native "oficinas" were erected right and left, without regard to scarcity of labour, dearth of water, and other difficulties; when these made themselves felt, many of the new concerns ran short of money, shareholders were unable to pay up their calls, and nitrate was forced on to the market, bringing down selling prices. Under ordinary circumstances these might have been supported by the European trade, deeply interested in the maintenance of values on account of previous large purchases, but unfortunately the financial crisis in the United States has intervened, with monetary stringency in Europe. Hamburg, the principal nitrate emporium, is particularly hard hit, and, instead of coming to the rescue, has been obliged to lighten its load, the carrying of large stocks on money borrowed at 10% being a ruinous proceeding. Such is the genesis of the existing *malaise* in nitrate circles.

There is no occasion at this time of the year to enter into elaborate statistical details, or to attempt to forecast the course of events next spring, but a few general data may not be altogether devoid of interest. The "visible supply" for Europe on the 1st inst. was, as stated in our last issue, 786,260 tons, of which 323,860 tons were afloat and 162,400 tons instore at the different ports, the latter figure comparing with 123,280 tons a year ago and 115,070 tons in 1905. Stocks in Hamburg and the Western German ports were 62,900 tons, against 41,400 last year, the bulk of the remaining surplus being in Belgium and Dunkirk. The total shipments from the West Coast in November-December, 1906, and January, 1907, to all parts (Europe, United States, etc.), were 553,064 tons, and, stocks in Chili being 600,000 tons, there is already available a surplus of 50,000 tons over the quantity required to provide similar exports to the end of January. Notwithstanding the supposed scarcity of labour—which is now officially admitted to be becoming less acute—last month's output

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(172,222 tons) was the largest on record, and while one or two "oficinas" have for financial reasons temporarily shut down, two others, of much larger dimensions (the Miraflores and Moreno) are on the point of commencing operations, if they have not already done so; the former has been allowed an initial "cuota" of 950,000 quintals, and the latter is owned by the German Nitrate Company, which has always managed to produce its full allotments. Numerous works, with a collective capacity of several hundreds of thousands of tons, are in a more or less advanced stage of construction, others exist only on paper (where they are not unlikely to remain), and two of the English companies have just announced their intention to put up new oficinas. It can therefore hardly be said that there is a prospective nitrate famine!

It is yet early to express an opinion with regard to next season's European requirements, but there is no reason to anticipate that these will be on an abnormally large scale; on the contrary, the chances seem to be that they may be less than this year, for the area of cultivable land is inelastic, and a larger proportion is likely to be devoted to cereals, which at present prices pay better than sugar-beet. This would mean the employment of less nitrate of soda, which fertiliser will moreover again have to reckon with the competition of sulphate of ammonia; the output of the latter is increasing by leaps and bounds in Germany, and as it provides nitrogen at a considerably lower cost than nitrate, it is given the preference by many intelligent farmers; this happened last spring on the Continent, and history will repeat itself.

Notwithstanding the large sums spent in "propaganda" under the auspices of the Permanent Nitrate Committee (the estimates for 1907-08 provide for no less than £75,000.) consumption has of late shown little or no expansion, the European port deliveries having reached only 1,151,300 tons in the ten months ending October 31, 1907, compared with 1,152,990 tons in the corresponding period last year. Greater progress has been made in the United States, where the bulk of the imports is still used for chemical purposes, but the shipments from Chili in the past four months were only 107,202 tons, against 125,193 tons last year, and the financial crisis is not conducive to an immediate augmentation of business in that direction. The nitrate producers are contemplating an increase of the levy for propaganda purposes from $\frac{5}{16}$ths of a penny per quintal to one half-penny, and the Chilian Government, besides contributing £35,000. per annum, has sent over a Special Commissioner to inquire into the means of developing the consumption of nitrate of soda. A reduction in the selling price will be by far the most effective stimulus, and the proof that such reduction involves no real hardship on producers is afforded by the prospectus of the Lilita Company, dated September 20 last, in which the cost of production from low-grade "caliche" is estimated at 5s. 6d. per quintal, f.o.b. Yet the nitrate producers seem to consider it only natural and reasonable that they should get 9s. per quintal the while the output capacity is increased without limit.

In 1901-02, the first year of the "Combination," 59 "oficinas" were at work, the total initial "export cuota" was fixed at 31,091,095 quintals, and the selling price averaged 6s. 5d., after having been 4s. 6d. prior to the signature of the compact. In September last the number of "oficinas" working was 118 (with many more approaching completion), the initial "cuota" had been raised to 75,992,000 quintals, and the selling price was 9s., after having been as high as 9s. 9d. in October, 1906. The increase in consumption in the seven years has been under ten millions of quintals. Of course, the actual exports have not been within measurable distance of the quantities allowed, unexpected obstacles having arisen in the shape of want of labour, etc., but these, as already stated, are gradually disappearing, thanks to the establishment of the recruiting agencies referred to in the quarterly circular of the Propaganda Association dated Iquique, July 31. At the same time prices of coal and fodder are falling, thus reducing the cost of production, which is further helped by the depreciation of the Chilian currency; the "truck system" exists on the "Pampa," wages being paid in "fichas" or tokens exchangeable at the oficina steors, while the nitrate is sold on a sterling basis. It is now freely admitted in nitrate circles not only that the output will rapidly expand, but that prices must come down, hence the attempt to stimulate consumption by means of an increased outlay on pamphlets, lectures, field experiments and other modes of "réclame." Meantime the position is entirely fictitious, and reminiscent of that of copper before its recent sensational collapse; in the case of the metal the redundant stocks, however, were "invisible," whereas those of nitrate are in full view, and while future excess supplies of copper are in Central Africa and other inaccessible regions, those of the Chilian fertiliser are close at hand.

The fall of about one shilling per cwt. which has so far taken place, is quite insignificant compared with that justified by the outlook for the industry, and unless something altogether unexpected happens, a further readjustment of values appears to be inevitable. Holders and producers of nitrate will strenuously kick against the pricks, and a low estimate of November shipments may temporarily help the market, but the retention of supplies on the West Coast would merely postpone the evil day. Never has so little nitrate of soda been bought forward by consumers, and these will do well to continue a waiting policy. At the time of writing prices are quite nominal at about 8s. 3d. per quintal, f.o.b. for prompt shipment, and 10s. 9d. per cwt. for spring delivery in Hamburg; the south-west wind is bringing up a fleet of nitrate ships which will really test the market.

Although several companies have just declared magnificent dividends ranging up to 150% per annum, nitrate shares are practically unsaleable, and buyers at fancy prices are lamenting their enterprise. The prospect of lower selling prices and reduced "cuotas," meaning smaller profits, is not alluring.

THE FRANCO-BRITISH EXHIBITION.

The preparations for the Franco-British Exhibition, which will be held next year at Shepherd's Bush, are now attracting a good deal of attention. In our last issue we described the lines on which the Exhibition is being arranged, and the arrangements which are in active progress for the housing of the exhibits. The General Committee which has charge of the enterprise is in itself indicative of the magnitude of the undertaking, and the array of names included on the executive body is ample guarantee for the soundness and comprehensiveness of the Exhibition, which will probably be the greatest ever held in the United Kingdom.

The committee are sparing no efforts in their endeavours to interest British manufacturers, and they emphasise the fact that the average business man as yet scarcely appears to grasp the national scope of the Exhibition, or the advantages likely to accrue to the nation at large through

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its being held in this country. Great Britain has for a number of years past allowed France, the United States, Belgium, and Italy to take the foremost part in the promotion of international exhibitions; in this respect France has taken the first place, and the committee regard it as a great compliment to Great Britain that France should now come forward to support this country in the promotion of an exhibition in which Britain is taking the lead. The committee appeal to British manufacturers for the greatest possible measure of support, and we are confident that the response from the chemical industries in particular will be an adequate one. The committee which has charge of the Chemical Section of the Exhibition (and of which Mr. Alfred Mond, M.P., is president) is a thoroughly representative one, and we trust that the exhibits will be worthy of the magnificent building which is being erected for their reception. We would emphasise the necessity for a whole-hearted response to the appeal for support which is being made with respect to the chemical trade, and we would urge the claims of the Franco-British Exhibition upon the attention of those chemical manufacturers who have not yet moved in the matter. The opportunity for demonstrating the progress of the British chemical and allied industries is indeed a unique one: The British exhibits will be arranged in juxtaposition to the corresponding French collection, and British chemical manufacturers should see to it that the national reputation in respect to this industry—in which we have by no means lost our laurels—is adequately and emphatically maintained.

THE OCTOBER TRADE RETURNS.

THE Board of Trade Returns for October show that the record which has already been established during 1907 in our overseas trade is fully maintained. The total imports for the month show an increase of three millions sterling and an increase in exports of over five millions. The figures for total imports during the ten months of 1907 are over thirty-five millions ahead of 1906, and nearly seventy-four millions greater than 1905. On the other hand, the total exports for the ten months of the year show an increase of forty-six millions as compared with 1906, and no less than eighty-five millions over the exports for 1905.

The imports of chemicals, drugs, dyes and colours in October amounted to £1,079,386., against £913,214. in 1906, an increase of £166,172. The imports of bleaching materials were valued at £2,877., against £3,912., and of soda compounds £11,773., against £8,933. in 1906.

The exports of chemicals, drugs, dyes, and colours in October amounted to £1,479,449., against £1,333,438. in 1906, an increase of £146,011. During the month the principal items were:—Bleaching materials, 95,181 cwts., valued at £19,880., against 88,458 cwts. and £18,643. in 1906. Coal products (not dyes), value £119,355., against £130,865. in 1906. Copper sulphate, 1,167 tons, valued at £29,053., against 441 tons and £11,102. in 1906. Dyestuffs, £35,172., against £31,550. in 1906. Glycerine, £38,252., against £25,143. in 1906. Chemical manure, 65,569 tons, valued at £377,563., against 57,935 tons and £320,656. Muriate of ammonia, 13,275 cwts., valued at £15,153., against 10,854 cwts. and £14,680. in 1906. Painters' colours and materials, 174,494 cwts., valued at £225,624., against 175,718 cwts. and £217,492. in 1906. Soda compounds, 623,943 cwts., valued at £203,699., against 550,203 cwts. and £157,639. in 1906. The exports of salt in October amounted to 48,754 tons, valued at £41,288., against 48,144 tons and £33,636. in 1906. Exports of "unenumerated chemicals" were valued at £257,287., compared with £266,815. in 1906.

The imports of oil seeds, nuts, oils, fats, and gums in October amounted in value to £2,539,386., against £2,118,657. in 1906, an increase of £420,729. The figures for petroleum were: 27,452,490 gallons, valued at £553,339., against 22,789,488 gallons and £467,408. in 1906. The value of exports of oil seeds, nuts, oils, fats, and gums was £366,970., against £281,318., an increase of £85,652.

The imports of metals and minerals during October were:—Copper ore, 7,555 tons, valued at £77,189., against 8,551 tons and £109,571. in 1906. Copper (regulus and precipitate), 3,786 tons, valued at £150,816., against 7,118 tons and £338,727. in 1906. Lead (pig and sheet), 21,924 tons, valued at £424,235., against 17,277 tons and £318,603. in 1906. Pyrites of iron and copper, 67,614 tons, valued at £108,566., against 66,770 tons and £123,424. in 1906. Quicksilver, 22,200 lbs., valued at £2,133., against 35,191 lbs., valued at £3,141. in 1906. Silver ore, value £264,313., against £168,818. in 1906. Tin, 4,016 tons, valued at £598,978., against 3,652 tons and £701,496. Zinc (crude), 8,198 tons, valued at £180,044, against 8,423 tons and £218,203.

AMERICAN METHODS FOR INCREASING TRADE.

MERCHANTS in South America use two methods in order to secure foreign business. The first is the sending out of agents, and the second the distributing of catalogues and advertising matter. "As regards the first method," says Mr. E. A. Burrill, U.S. Vice-Consul at Puerto Cabello, Venezuela, "the best way of getting foreign business is to employ an agent thoroughly conversant with trade possibilities, and knowing the language of the country to which he is sent. He should take a full line of samples, and should pay special attention to the tastes and customs of the consumers. As regards the second method, the catalogues, etc., would be more effective if printed in the language of the country in which they are to be distributed; they should be sent also to the various reading rooms, clubs, merchants' associations, and similar places frequented by a coterie of buyers. Institutions such as these are better fitted to distribute information than are the Consulates." In addition to being printed in the language of the country, the prices quoted in catalogues should be given in the currency of the country. The weights of the merchandise should either be stated in the metric system or the system in vogue at the place of distribution. All those who wish to get business through catalogues and advertising matter without the aid of a selling agent should see that every detail is properly presented. A list of Venezuelan clubs and merchants' associations in Puerto Cabello, Valencia, and Barquisimeto is filed for reference at the American Bureau of Manufacturers.

U.S. Consul Morgan, in his report on the trade of Würtemberg, observes that most American firms believe they can "work up" a good business through correspondence and catalogues, "but," he adds, "I doubt very much if any business worth having was ever worked up in this manner. The larger part of the catalogues sent here are in the English language, and as most of the merchants in this country are not familiar with that language, this printed matter usually finds its way into the waste-paper basket. All catalogues and other printed matter sent to this country ought to be in the German language, prices stated in German currency, and, if possible, freight and duty paid. All measures should be given in the metric system. Business in Wurtemberg is done practically in the same manner as at home, and any business worth having is worth seeking and must be constantly looked after, prices must be competitive, and manufacturers must be prepared to give from three to six months' time or a liberal cash discount. It would be of great advantage to send agents and drummers to this country who speak the German language fluently and are thoroughly capable

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and familiar with the conditions of trade. Circulars in the English language, with prices in United States currency, generally f.o.b. New York cannot increase American exports. A splendid market exists for those who have enterprise and forethought enough to do business here systematically."

He concludes: "The development of the economic ideal in the German Empire, its phenomenal growth in the industrial arts, and its quick and scientific business methods, combine to create a field that should attract the attention of the American manufacturer and merchant."

Consul R. J. Thompson, in a report from Hanover, reverts to the same subject. In order to give a direct and initial connection with the German dealer, and on a more comprehensive scale than the limited number of local dealers, usually requested by the American manufacturer seeking an opening for export trade in Germany, a directory has been compiled. This directory, which is filed for reference at the Washington Bureau of Manufactures, comprises a special list of importers and dealers in all cities of the German Empire with a population of not less than 25,000, the names being taken from the "Deutsches Reichsadressbuch für Industrie, Gewerbe und Handel." While they are not vouched for as to financial responsibility or credit, they are fairly representative concerns, and will answer the purpose of an introductory correspondence with the view to inquiry as to market conditions in Germany with respect to possible demands for American goods.

THE INSTITUTION OF MINING AND METALLURGY.

STANDARDISATION COMMITTEE.

A CIRCULAR letter embodying a number of questions on the recommendations of the "Weights and Measures" and "Mesh" Standardisation Committees, was recently sent to members of the Institution and others. This circular has elicited answers from technical societies and Chambers of Mines, as also from 280 engineers and metallurgists; and these answers have very strongly confirmed the conclusions of the Standardisation Committees.

As regards the general adoption of the Metric System of Weights and Measures, opinions are so evenly divided that the Council do not feel justified in recommending uniformity of practice at the present time.

Whilst there is a very general feeling amongst engineers that the term "slimes" should be more clearly defined than at present, the suggestions received have been too divergent to justify the Council in making any recommendations on the subject at present.

The Secretary of the Institute has now issued copies of memoranda embodying the standards and definitions now adopted by the Council, and he is directed to express the hope that all members of the Institution, and other professional men, will adopt and use them in reports, scientific papers, and other publications.

In some replies containing objections to the convenient constant of 85s. for the value of one ounce of fine gold, the writers overlooked the fact that Clause (6) in the accompanying Memorandum refers only to *assay* results of ores, etc.; and it will be admitted that unavoidable variations in both check assays and check samples are such as to make the difference of 0.55 of a penny, per ounce of fine gold, a negligible quantity.

With a view to securing the greatest uniformity in the drawing of the wire and the manufacture of the standard screens, Messrs. N. Greening and Sons, Ltd., of Warrington, have agreed to manufacture a certain quantity of each of the standard sizes to a width of 8 in. at one operation, and these will be supplied by them direct, by their agents abroad, or by dealers in laboratory supplies. Sizes 5, 8, 10, 12, 16, 20, 30, 40 and 50 of these screens are now ready in 8 in. squares, and may be obtained in made-up "nests" by the end of November. The manufacture of the remaining sizes is being pressed forward with the least possible delay.

The following definitions have been adopted by the Institution:—

(1) The word "ton" shall represent a weight of 2000 lbs. avoirdupois (29,166.6 ozs. troy). *Note.*—It is advisable to abandon the use of the terms hundredweights and quarters, and to express fractions of a ton in pounds or in decimals of a ton.

(2) The term "miners' inch" shall represent a flow of 1.5 cub. ft. of water per minute; and the term "sluice head" shall represent a flow of 60 cub. ft. of water per minute. *Note.*—It is advisable to abandon the use of both terms, as being merely of local usage, in favour of definite expression of the flow of water per minute, or per second, in cub. ft. or in gallons.

(3) The word "gallon" shall represent the Imperial gallon measure of 10 lbs. of water.

(4) Temperatures shall be expressed in degrees Centigrade.

(5) Returns of gold and silver shall be expressed in terms of fine gold and fine silver respectively, not as "bullion."

(6) Gold contents of ores, etc., determined by assay, shall be expressed in money values as well as in weights; and in this connection the value shall be taken (as a convenient constant) at 85 shillings, or $20.67. U.S. currency, per troy ounce of fine gold.

The following table of "I. M. M. Standard Laboratory Screens" is intended for use in making grading tests and for the correlation of screens used in commercial or other work. When screens other than the I. M. M. Standards are employed, the diameters of apertures should be given in any published results, so that comparisons may be made. When screens are described simply by the number of meshes per linear inch, it will be understood that the I. M. M. Standard is referred to. The number of sizes standardised has been reduced to a minimum, as it is desirable to abandon excessive refinements in grading tests. It is believed that the I. M. M. Standards will meet all necessary requirements of the laboratory. In reporting grading tests it is desirable to state whether wet or dry screening has been employed.

Table.—I. M. M. Standard Laboratory Screens.

Mesh or Apertures per Linear Inch.	Diameter of Wire.		Aperture.		Screening Area
	in.	mm.	in.	mm.	Per cent.
5	0.1	2.540	0.1	2.540	25.00
8	0.063	1.600	0.062	1.574	24.60
10	0.05	1.270	0.05	1.270	25.00
12	0.0417	1.059	0.0416	1.056	24.92
16	0.0313	0.795	0.0312	0.792	24.92
20	0.025	0.635	0.025	0.635	25.00
30	0.0167	0.424	0.0166	0.421	24.80
40	0.0125	0.317	0.0125	0.317	25.00
50	0.01	0.254	0.01	0.254	25.00
60	0.0083	0.211	0.0083	0.211	24.80
70	0.0071	0.180	0.0071	0.180	24.70
80	0.0063	0.160	0.0062	0.157	24.60
90	0.0055	0.139	0.0055	0.139	24.50
100	0.005	0.127	0.005	0.127	25.00
120	0.0041	0.104	0.0042	0.107	25.40
150	0.0033	0.084	0.0033	0.084	24.50
200	0.0025	0.063	0.0025	0.063	25.00

Note.—Whilst *absolute* accuracy to the fourth place of decimals of an inch is impracticable in the manufacture of wire cloth, a sufficiently close approximation to the above standards is attainable. The adoption of a screening area of 25% necessitating equality of size of wire and aperture, secures perfect interlocking and consequent permanence of aperture. Some of the finer mesh screens can only be woven in what is known as "twilled."

SCIENTIFIC AGRICULTURE IN SPAIN.

THE general progressive movement in Spain is expressed by a recent Government order creating a sort of ambulating school for teaching scientific farming in the remote agricultural districts of the country. The Government order provides for a course of experimental and practical instruction to be given every year by itinerant lecturers, selected from among the agricultural engineers at the district Schools of Agriculture. In the months of January and February of each year the directors of these schools are required to report to the Department of Agriculture at Madrid, giving the programme of the lectures intended to be given during the ensuing twelve months, with an estimate of the cost, including travelling expenses and remuneration of the teachers, and transport of the agricultural machinery or appliances which it may be considered advisable to carry to those remote villages where the practical instruction is to be given.

So far only the Schools of Agriculture at Zaragoza, Jaen, Palencia, Badajoz, and Barcelona, and the two stations at Haro and Villafranca del Panadés are referred to in this order, but if the movement prove a success it will no doubt be extended, and must lead to a wider use of modern farming appliances in Spain.

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IMPORTS OF METALS AND MINERALS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of metals and minerals imported during the month of October, 1907, as compared with October, 1906:—

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
			£	£
Copper (regulus and precipitate):				
From Germany ..Tons	12	56	408	1,705
„ Portugal .. „	41	41	1,885	2,683
„ Spain .... „	1,247	1,376	67,670	112,241
„ U.S.A. .... „	—	786	—	25,725
„ Peru .... „	187	365	7,175	10,680
„ Chile .... „	180	116	7,880	3,830
„ Other Countries . „	2,119	4,378	65,798	181,863
Total .... „	3,786	7,118	150,816	338,727
Copper Ore:				
From Spain ....Tons	119	188	940	1,180
„ U.S.A. .... „	—	—	—	—
„ Chile .... „	3,030	3,946	29,428	40,878
„ Cape of G. Hope .... „	—	1,863	—	37,826
„ Australia ... „	985	53	14,508	1,371
„ Newfoundland .... „	—	—	—	—
„ Other Countries . „	3,421	2,501	32,313	28,316
Total .... „	7,555	8,551	77,189	109,571
Pyrites of Iron and Copper .....Tons	67,614	66,770	108,566	123,424
*Silver Ore .. Value £.	—	—	264,313	168,818
Tin Ore:				
From S.America, Tons	1,840	2,195	151,793	169,117
„ Other Countries . „	317	193	16,114	17,272
Total .. „	2,157	2,388	167,907	186,389
Lead (pig and sheet):				
From Germany ..Tons	250	1,300	5,000	24,783
„ Spain .... „	9,223	8,661	177,637	157,517
„ Greece .... „	—	—	—	—
„ U.S.A. .... „	3,731	1,310	74,280	24,298
„ Australia ... „	5,025	5,039	98,889	92,984
„ Other Countries . „	3,695	967	68,429	19,021
Total .... „	21,924	17,277	424,235	318,603
Quicksilver .....Lbs.	22,200	35,191	2,133	3,141
Tin, in blocks, ingots, bars, or slabs:				
†From Straits Settlements ....Tons	2,930	2,803	442,094	544,131
„ Australia ... „	579	646	84,369	122,158
„ Other Countries . „	507	203	72,515	35,207
Total .... „	4,016	3,652	598,978	701,496
Zinc, crude, in cake Tons	8,198	8,423	180,044	218,203

* Silver Ore includes the value of the Silver in imported Argentiferous Ores and Metals. † Including Federated Malay States.

IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during October, 1907, as compared with October, 1906:—

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
			£	£
Chemicals:				
Bleaching Materials Cwts.	11,863	15,557	2,877	3,912
Boracite, Borate of Lime, Borate of Magnesium, and Borax .... „	40,635	58,977	19,495	25,610
Brimstone .... „	19,135	34,185	5,097	7,962
Coal Products, not Dyes .... „	3,445	5,209	8,245	7,548
Cream of Tartar „	4,927	4,991	19,505	18,803
Glycerine .... „	8,133	4,475	15,211	7,966
Muriate of Ammonia .... „	299	120	408	176
Saltpetre (Nitrate of Potash) .... „	22,153	15,548	22,326	15,543
Soda Compounds „	28,693	26,063	11,773	8,933
Sulphuric Acid . „	4,073	8,019	377	421
Tartaric Acid .. „	2,868	2,849	13,851	13,183
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value £	—	—	267,125	184,548
Drugs and Medicines:				
Bark, Peruvian ..Cwts.	1,669	2,477	3,513	5,845
Quinine and Quinine Salts .. ozs.	140,200	102,638	5,220	3,248
Unenumerated Value £	—	—	100,875	105,520
Dye Stuffs (other than Dye Woods) and Substances used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	28,597	22,520	11,158	9,496
Cutch ..... Tons	514	326	8,997	8,464
Dyes, Coal Tar:				
Alizarine and Alizarine Dyes Cwts.	7,494	8,516	31,853	32,581
Aniline ..... „	22,807	17,785	132,840	103,082
Synthetic Indigo „	2,504	5,063	9,659	19,394
Other Coal Tar „	296	24	1,043	125
Extracts .....Value £	—	—	68,666	75,253
Gambier .....Tons.	374	392	8,213	7,766
Indigo .....Cwts.	383	82	4,515	986
Myrabolans .... „	57,589	36,769	14,808	8,658
Valonia ..... Tons	1,347	1,507	14,205	16,831
Painters' Colours and Pigments:				
White Lead ....Cwts.	30,818	22,073	32,196	20,984
Nickel Oxide .... „	3,938	1,083	20,862	5,389
Zinc Oxide .... „	30,942	24,407	35,202	27,427
Other Sorts .... „	123,831	136,642	78,745	75,631
Total .... „	189,529	184,205	167,005	129,431
Manures:				
Bones, whether burnt or not ..... tons.	8,428	4,656	34,783	20,570
Guano ..... „	5,147	4,263	20,576	19,741
Nitrate of Soda (Cubic Nitre).. „	11,620	10,193	128,176	116,258
Phosphate of Lime, and Rock Phosphate .... „	47,714	20,297	82,952	28,306

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., exported during October, 1907, as compared with October, 1906:—

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
			£	£
BLEACHING MATERIALS:				
To U.S.A. .....Cwts.	67,113	54,004	13 255	10,956
„ Other Countries „	28,068	34,394	6,625	7,687
Total .... „	95,181	88,458	19,880	18,643
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	47,018	60,545	14,764	15,092
Carbolic Acid .. „	10,494	10,021	12,463	14,425
Naphthalene and Anthracene .. „	6,760	6,620	1,802	2,372
Other Sorts .... „	851,277	1,024,808	90,326	98,976
Total .... „	915,549	1,101,994	119,355	130,865
COPPER, Sulphate of. Tons	1,167	441	29,053	11,102
CREAM OF TARTAR Cwts.	72	148	246	582
DYE STUFFS:				
Products of Coal Tar ..... „	5,124	3,980	17,843	12,697
Other Sorts .... „	20,943	19,122	17,329	18,853
Total .... „	26,067	23,102	35,172	31,550
GLYCERINE .....Cwts.	18,802	12,632	38,252	25,143
MANURE (Chemical):				
To Germany .. Tons	2,016	2,012	15,886	18,158
„ Belgium .... „	157	74	634	536
„ France .... „	3,703	4,874	18,441	26,592
„ Spain & Canaries „	13,180	12,601	83,969	77,085
„ British West India Islands (including Bahamas) & British Guiana .. „	1,299	1,374	13,142	14,472
„ Other Countries „	45,214	37,000	245,491	183,813
Total .... „	65,569	57,935	377,563	320,656
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	124,551	67,996	5,902	3,161
Unenumerated. Value £	—	—	147,183	130,998
Total	—	—	153,085	134,159
MURIATE OF AMMONIA ....Cwts.	13,275	10,854	15,153	14,680
PAINTERS' COLOURS AND MATERIALS:				
White Lead ..Cwts.	35,511	37,063	43,861	40,339
Nickel Oxide .... „	8	424	60	3,022
Zinc Oxide .... „	8,041	11,664	9,239	15,127
Other Sorts .... „	130,934	126,567	172,464	159,004
Total .... „	174,494	175,718	225,624	217,492
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	177,551	206,805	40,906	47,506
„ Bicarbonate „	48,456	32,751	14,812	10,021
„ Caustic .... „	167,903	147,575	83,338	73,696
„ Crystals .. „	36,758	20,219	7,066	3,398
„ Sulphate (Saltcake) „	138,377	102,878	13,220	8,320
„ Other Sorts „	54,898	39,975	44,357	14,698
Total .. „	623,943	550,203	203,699	157,639

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
			£	£
SULPHURIC ACID ..Cwts.	9,194	9,977	4,008	3,525
TARTARIC ACID .. „	220	108	1,072	587
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) ....Value £	—	—	257,287	266,815
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	832	1,035	621	586
„ Belgium ..... „	2,984	2,960	1,652	1,664
„ U.S.A. ..... „	4,793	3,991	6,623	5,364
„ British E. Indies „	10,879	16,205	6,985	9,360
„ Australia .... „	1,790	260	1,426	379
„ New Zealand . „	662	426	1,253	792
„ Canada ..... „	8,786	6,339	7,620	5,702
„ Other Countries „	18,028	16,928	15,108	9,789
Total ..... „	48,754	48,144	41,288	33,636

SOCIETY OF CHEMICAL INDUSTRY.

LONDON SECTION.

A MEETING of this Section was held on November 4th, Mr. R. J. Friswell presiding.

The first paper, by Mr. Cyril Bergtheil and Mr. R. V. Briggs, dealt with the Determination of Indigotin in Indigo-Yielding Plants. The accurate determination of indigotin in the indigo plant is of considerable importance, since a correct estimate of the efficiency of the process of indigo manufacture depends thereon. A method of precipitating indigotin from an extract of the plant in boiling water by means of ammonium persulphate, proposed by Rawson in 1904, and modified by the present authors, has been shown to give correct results by comparison with those obtained by fermentation of the extract by means of the indigo enzyme (*J.S.C.I.*, 1906, 25, 729). This method has been criticised by Orchardson, Wood, and Bloxam, and two alternative methods have been proposed, one of which (depending on the same principle) is said to give results identical with those obtained by the authors' method; whilst the other, depending on the precipitation of indirubin by the action of isatin in acid solution, indicates a considerably higher potential yield of indigotin in the plant-extract used (*J.S.C.I.*, 1907, 26, 4). The authors' original method is now verified, and some minor modifications are recommended. It is shown that neither of the methods proposed by Orchardson, Wood, and Bloxam can be used in practice, since both lead to entirely erroneous results, unless the exact indican-content of the samples dealt with is previously known, and the methods adjusted accordingly. The conclusion that the isatin method may under certain circumstances indicate a higher indican-content in a given extract than the persulphate method is not borne out by the authors' experiments.

A paper by Messrs. R. Gaunt, F. Thomas, and W. P. Bloxam, on the Analysis of Indigo (Part III.) and of the dried leaves of *Indigofera arrecta* and *I. Sumatrana*, was also read. In this paper a summary is first given of the results of the work on indigo carried out for the Government of India at the University of Leeds during the years 1905-1907. In the present paper the exact conditions were prescribed for the preparation of pure indigotin to serve as the standard on which the tetrasulphonate process for the estimation of indigotin is based. A reply was made to certain criticisms on the tetrasulphonate process; the defects complained of were shown to be due to want of proper precaution on the part of the operators. The methods in use for the estimation of indigotin in the leaf were described. The persulphate method was found altogether faulty, as the results obtained by it were too low. The new "isatin" method was found to give much higher results, and, moreover, the method is quantitative, as proved by its action on the glucoside indican which has recently been isolated in quantity by Messrs. A. G. Perkin and W. P. Bloxam. As a result of employing the isatin

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process the indigo leaf is demonstrated to be capable of yielding more indigotin than had previously been supposed. Again, the percentage of leaf present in the green plant has been underestimated in India. It is insisted that these facts are in favour of the survival of the Indian indigo industry. To this must be added the discovery by the authors of a sample of dried leaf of *I. Sumatrana* which was twice as rich in indigotin as any specimen of *I. Sumatrana* (the more highly valued Java or Natal plant). Finally, it was submitted that the work on the indigo ferment enzyme had not been properly followed out, and that the present reports on the Indian manufacture were eminently unsatisfactory, for:—(1) the colours giving value of the raw materials was seriously under-estimated, whilst (2) the indigotin value of the manufactured cake was over-estimated, and this owing to the persistent use of unsatisfactory methods of analysis in lieu of adopting the tetrasulphonate process.

THE FARADAY SOCIETY.

THE thirty-first ordinary meeting of the Faraday Society was held on October 29, at the Institution of Electrical Engineers, Mr. N. T. M. Wilsmore, M.Sc., presiding.

The Chairman announced that Sir Oliver Lodge had accepted the invitation of the Council to succeed the late Sir William Perkin as President of the Society.

A paper on "The Electrolysis of Salt Solutions in Liquefied Sulphur Dioxide at Low Temperatures," communicated by Dr. Bertram D. Steele, was read in abstract by the Secretary. This was a preliminary account of the results at present arrived at in the course of a general study of the electrolysis of salts in liquefied gases. The present paper deals with the case of a solution of potassium iodide in sulphur dioxide. Electrodes of various materials were used, and the changes at anode and cathode were carefully studied. With platinum or mercury cathodes a very rapid diminution of current (depending on the initial current density), due, in the author's opinion, to a film of sulphur, was observed. Potassium sulphite with an admixture of sulphur was after continued electrolys is found to be deposited on these cathodes. Using silver, copper, or iron cathodes of large area, a constant current was maintained, the sulphides being formed in these cases. Iodine was formed at the anode, being either liberated or found in combination, depending on the metal employed. No potassium as metal was found to be deposited on the cathode. The author concludes that sulphur cations exist in the solution. Measurements of conductivity and ionic velocities have also been made, and the results obtained will be published in due course.

Dr. T. M. Lowry was sceptical as to the existence of sulphur ions. He thought secondary reactions would explain Dr. Steele's observations.

A paper by Mr. F. E. Weston, B.Sc., and Mr. H. Russell Ellis, B.Sc., on "The Action of Aluminium Powder on Silica and Boric Anhydride," was read in abstract by Mr. Weston, who showed, on a small scale, some of the reductions described. The authors have studied the action of aluminium powder upon boric anhydride and silver respectively. It is shown that in the case of boric anhydride the reducing action of the aluminium depends upon the fineness of both the aluminium and the boric anhydride. *E.g.*: (*a*) Mixtures in molecular proportions of the finest obtainable aluminium powder and powdered B_2O_3 which has passed through a sieve of 14,400 meshes to the square inch react at once, in the cold, when started with a fuse of Mg ribbon and BaO_2 powder. (*b*) Mixtures in proportion of Al_2 to $2B_2O_3$ only react when heated to dull redness in a muffle furnace. (*c*) Similar mixtures to (*a*) and (*b*), but using B_2O_3 that has only passed through a sieve of 3,600 meshes to the square inch, only react when heated to 300° C. and dull redness respectively. The products of the reaction were shown to be Al_2O_3 and mixtures of boron with aluminium borides, the latter predominating in the mixture containing molecular proportions, and the former in the other mixture. In the action of aluminium upon silica the authors used for the latter kieselguhr, precipitated silica, and fine silver sand. Here again the action took place more readily with the finer varieties of silica, the speed and energy of the reaction being in the order—precipitated silica, kieselguhr, silver sand. The action took place in the cold with precipitated silica and kieselguhr on being started with a fuse of Mg and BaO_2, when the constituents in the mixture were in the ratio of $3SiO_2$ to 8Al; when the mixture contained the constituents in the ratio of $3SiO_2$ to 4Al the reaction only took place on heating the mixture to dull redness. When sand was used the mixture had to be heated to a dull redness in each case before the action commenced, and in the mixture containing $3SiO_2$ to 4Al free sand and free Al were found in the product. The products of the reaction contained in all cases Al_2O_3, silicon (as shown by the production of $SiCl_4$), and probably some silicides of Al.

Dr. R. Seligman suggested that some of the heat required in these reactions was furnished by the aluminium or boron, as the case may be, burning in the air. The fireproof slags obtained in many cases were being used for making acid-resisting crucibles and for other industrial purposes. Dr. F. M. Perkin pointed out that the difficulty of getting a fusible slag in all cases prevented the preparation in a pure state of products like boron and silicon.

Dr. F. M. Perkin and Mr. L. Pratt read a paper on "The Reduction of Metallic Oxides with Calcium Hydride," and illustrated some of the reductions. When copper oxide is mixed with calcium hydride in proportions corresponding to $2CuO + CaH_2 = 2Cu + CaO + H_2O$, and ignited by means of a match, a vigorous reaction ensues, and volumes of steam are given off. On cooling a black mass is obtained, which on treatment disintegrates, owing to solution of calcium oxide, and metallic copper in a state of fine division is obtained. Pyrolusite, hæmatite, and tin stone all behave in a similar manner. Zinc oxide appears not to be reduced. Lead sulphide and antimony sulphide both react vigorously, and during the reaction the mixture swells up considerably, rising up out of the crucible in a cylindrical form. Very little metal is produced, the bulk of the product being a dark grey mass, which appears to be a compound of the metal with calcium and sulphur. Borax and boric anhydride also react with calcium hydride when the mixture is strongly heated in the muffle furnace. Silica in the form of fine sand only reacts after prolonged heating, but reaction takes place more readily when kieselguhr is employed. Wolframite and rutile only react with difficulty. Experiments were also tried with metallic calcium and wolframite. In this case a particularly vigorous reaction takes place, the tungsten being melted and being obtained on cooling as a hard regulus. The heat is so great that the calcium oxide is also melted. Rutile is also reduced by calcium; the reaction, however, is not so intense, and the titanium and calcium oxide are not fused. The action of metallic calcium upon metallic chlorides was also studied. Manganese chloride and cadmium chloride are readily reduced. When metallic calcium and strontium chloride are mixed together in molecular proportions and ignited by heating in an iron crucible by means of the blowpipe, reaction ensues—

$$SrCl_2 + Ca = CaCl_2 + Sr.$$

Very little metal, however, is obtained, probably owing to the formation of a sub-chloride, ClSr – CaCl. On adding two atoms of calcium the reaction is intensely vigorous, and the metal is obtained as a fused regulus. With barium chloride the reaction is less vigorous. With the alkali metals very vigorous reactions also take place.

A New Wood Preservative.—Recent experiments in Belgium made with a new coal-tar extract, known as "injectol," have given satisfactory results, according to the American Vice-Consul at Ghent. The experiments were principally devoted to the treatment of wooden poles and blocks used in street paving. The product is a liquid, of a dark-brown colour, very thin, and of regular density. Its degree of viscosity changes very little with atmospheric variations. One of the principal advantages is its penetration into certain woods without any pressure. For the antiseptic treatment of compact woods, using the apparatus similar to the "Breant" system, the time necessary for the pressure and soaking of a given quantity of "injectol" is considerably less than for any other antiseptic liquid, including creosote. It has been found that where creosote poles in the ground have only resisted decay for a few months, those treated with "injectol" remained unattacked after three years. Similar experiments were also made with railway sleepers; the latter were treated with different antiseptics. Some were soaked in a mixture of coal creosote, creosote and chloride of zinc, and two were treated with "injectol." After having been left for a period of two years in a steeping vat composed of liquid manure and other miscellaneous decomposing substances, it was found that the two treated with "injectol" were still in good condition, while the others were almost completely destroyed. Similar results were obtained with wooden blocks for street paving. Other experiments are now being carried on, and the results obtained will be made public.

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during October, 1907, as compared with October, 1906:—

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
OIL SEEDS.				
COTTON:			£	£
From Egypt .Tons	33,026	36,993	244,795	250,764
,, Other Countries . ,,	19,203	4,249	113,341	23,658
Total .. ,,	52,229	41,242	358,136	274,422
FLAX OR LINSEED:				
From Russia .Qrs.	35,045	20,164	77,474	38,619
,, U.S.A. . ,,	8,476	15,398	19,316	30,612
,, Argentine Republic . ,,	20,966	21,978	46,964	43,481
,, British East Indies ,,	41,980	28,859	94,674	59,069
,, Other Countries . ,,	20,778	12,945	45,732	29,448
Total .. ,,	127,245	99,344	284,160	201,229
RAPE:				
From Russia .Qrs.	262	898	550	1,155
,, British East Indies ,,	10,889	4,400	23,143	10,761
,, Other Countries . ,,	2,227	2,809	6,047	6,232
Total .. ,,	13,378	8,107	29,740	18,148
OILS, REFINED:				
Cocoanut..Cwts.	11,141	18,918	21,433	30,845
Cottonseed Tons	654	432	21,981	10,306
Olive.....Tuns	305	273	18,016	13,795
Palm.....Cwts.	1,073	360	1,660	462
Total Value £	—	—	63,090	55,408
OILS.				
Fish(train,blubber and Sperm) Tuns	3,205	3,841	61,638	63,448
Cocoanut, unrefined....Cwts.	37,886	29,958	65,558	46,754
Olive ,, Tuns	222	456	8,050	15,556
Palm ,, Cwts.	100,516	124,291	118,606	152,476
PETROLEUM:				
Crude ....Glns.	—	1,080	—	39
Lamp Oils .. ,,	15,081,524	15,767,791	257,714	277,219
Spirit .... ,,	1,964,852	685,889	55,515	20,005
Lubricating Oils .... ,,	4,909,107	4,432,778	163,562	145,131
Gas Oil ... ,,	4,560,654	1,898,110	64,341	24,814
Fuel Oil ... ,,	936,353	3,840	12,207	200
Total of Petroleum ,,	27,452,490	22,789,488	553,339	467,408
SEED OIL:				
Cotton-seed Tons unrefined .. ,,	15	9	330	186
Linseed pure ,,	745	908	16,325	16,953
,, not pure ,,	41	64	702	1,273
Rape-seed ,,	766	850	24,484	22,539
Other Sorts ,,	446	832	14,384	20,081
TURPENTINE Cwts.	32,990	45,452	60,608	99,135
SOAP STOCK ,,	10,275	5,087	7,481	3,622

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of October. 1907.	QUANTITIES. Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
TALLOW AND STEARINE:			£	£
From France Cwts.	6,774	3,895	11,204	6,231
,, U.S.A. .. ,,	12,866	44,607	19,999	59,402
,, Argentine Republic ,,	23,929	14,931	41,149	23,279
,, Australia ,,	69,460	59,540	115,555	91,962
,, New Zealand ,,	44,095	31,541	73,646	49,157
,, Other Countries ,,	8,313	8,727	13,752	14,449
Total... ,,	165,437	163,241	275,305	244,480
GUM:				
ARABIC ....Cwts.	3,219	6,716	5,584	9,698
LAC-DYE, SEEDLAC, SHELLAC, and STICKLAC ..Cwts.	13,974	5,813	115,819	57,640
ROSIN .....Cwts.	148,772	114,013	76,435	60,562

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during October, 1907, as compared with October, 1906:—

ARTICLES.	QUANTITIES Month of October. 1907.	QUANTITIES Month of October. 1906.	VALUE. Month of October. 1907.	VALUE. Month of October. 1906.
GREASE, TALLOW, AND ANIMAL FAT .. .Cwts.	83,392	68,305	£ 116,452	£ 90,904
OILS, Refined:				
Cocoanut - - Cwts.	947	1,750	1,926	2,679
Cottonseed - - Tons	2,798	2,427	82,437	52,868
Olive - - Tuns	45	9	3,341	631
Palm - - Cwts.	2,173	2,844	3,327	4,006
Total. Value £	—	—	91,031	60,184
OILS:				
Cocoanut, Unrefined Cwts.	4,530	280	7,870	450
Olive ,, ,, Tuns	—	—	—	—
Palm ,, ,, Cwts.	1,703	55	2,499	88
OIL, SEED:				
To Germany ....Tons	94	54	2,732	1,243
,, Netherlands ,,	9	4	209	106
,, Belgium .... ,,	454	33	11,849	686
,, Austria-Hung. ,,	3	5	94	116
,, Egypt .... ,,	233	206	5,700	4,541
,, Brazil .... ,,	317	407	8,135	9,112
,, British India ,,	94	122	2,591	2,088
,, Straits Sts. ,,	31	50	927	1,428
,, Ceylon .... ,,	6	14	157	258
,, Australia .. ,,	559	480	13,873	11,639
,, Canada .... ,,	46	309	1,206	6,108
,, Other Co'tries ,,	1,506	1,431	45,079	36,362
Cottonseed Oil, Unrefined .....Tons	10	21	220	450
Linseed Oil:				
Pure ..... ,,	2,205	2,305	58,143	53,263
Not Pure ..... ,,	243	277	5,845	5,794
Rapeseed Oil .. ,,	804	491	25,965	13,736
Other Seed Oils ,,	90	21	2,379	444
Total .... ,,	3,352	3,115	92,552	73,687
SOAP STOCK Cwts.	882	1,106	1,263	1,261

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Continental Notes.

In the *Chemiker-Zeitung* for October 23rd, O. Sackur describes an ingenious apparatus for automatically regulating the strength of an electric current in spite of fluctuations in the voltage. The current to be regulated passes through an electrolytic cell, setting free a mixture of hydrogen and oxygen, which gases pass up a tube and through a capillary. If the current sets free the gas more rapidly than it escapes through the capillary, the pressure rises inside the electrolytic cell, and this pressure is communicated to a U-tube containing mercury and a bad conducting liquid, such as alcohol or water. Wires are let into this U-tube, and are connected up in such a manner that when the pressure rises a greater proportion of the current from the generator is shunted through it, and consequently less passes through the electrolytic cell and the other apparatus that is in series with it.

In the same issue, N. A. Orlow writes on the action of osmium peroxide on soluble iodides. Contrary to the statements made in some text books, OsO_4 does not set free iodine from neutral potassium iodide solution, but on the addition of hydrochloric acid the reaction takes place at once. The same applies to other soluble iodides. Osmium is to be considered as belonging to the seventh group of the periodic system, the same group that manganese and ruthenium belong to, and not to the eighth group, which in this series contains iridium, platinum, and gold.

There is also a report of the steam explosions that took place in Germany during 1906.

In the issue of October 26th, Prof. H. Erdmann has an interesting note on solid air. If air is dried, freed from carbonic acid, then liquefied under a pressure of 4 atmospheres in a cooling apparatus, and the clear liquid thus obtained is introduced into a vessel which is evacuated to 10 or 20 m.m. of mercury, it becomes semi-solid through the separation of crystals of nitrogen. It differs in this respect from ordinary "liquid air," which has an entirely different composition from real air. The author suggests that this property may be made use of for the preparation of pure nitrogen for scientific and technical purposes, as the purification of nitrogen by chemical means or by fractional distillation is extremely difficult and expensive.

There is also a report upon industrial poisoning with chromium compounds, by L. Lewin, which is of considerable interest in view of the increasing use of these substances for many technical processes. All chromium compounds are poisonous, whether they are present as lumps or powder, or are mixed with or dissolved in water. Also materials such as paper or linen upon which chromium compounds are deposited may act in a poisonous manner to a man coming in frequent contact with them. Different individuals are affected in different degrees by these compounds, but none should presume upon an apparent immunity. The chromium compounds affect first the places with which they come in contact, causing irritation and swelling. If they afterwards get into the blood, they cause pains in the head and stomach, and may then affect the kidneys. As means to prevent this poisoning, the worker's hands should be protected by constantly rubbing them with fresh oil, such as earth-nut oil, or by coating them with collodion, or, best of all, by wearing impervious gloves. The chromium worker must not on any account touch any part of his body with his hands unless they are clean. He should not talk or sing at his work for fear of inhaling chromium dust, and if there be much dust he should wear a respirator. He must not eat or drink in the work room, and before having a meal he must rinse out his mouth, brush his teeth, and clean his hands with brush, soap, and sand. If the necessary appliances are present the nose also should be rinsed out. Taking snuff is of no use as a preventive. Every chromium worker should be examined by a medical officer every week, and if not satisfactory the dangerous work must be suspended.

E. R. Besemfelder in the *Zeitschrift für Chemische Apparatenkunde* for October 15th describes a new filtering plant suitable for the treatment of water supplies and other liquids upon a large scale. The filter consists of a number of high rectangular troughs, the sides of which are composed of the porous filtering material. Each of these troughs is fitted with an opening at the bottom to run off the slime, and between every pair there is a space for the filtered water to run down. In consequence of the height of the filter chambers, the pressure at the bottom is considerable, and the rate of filtration correspondingly rapid. The form of the filter offers great facilities for cleaning and renewing it.

The same issue contains a description of a plant for pumping effluents by means of compressed air. In consequence of the corrosive character of many effluents from chemical works, it is not possible to make use of ordinary metallic pumps. The plant described works upon the same principle as the ordinary acid "egg."

THE INDIAN OILSEEDS CROP.

THE second General Memorandum on the Sesamum (til or (jinjili) crop of the season 1907–08 has been issued by the Indian Commercial Intelligence Department, dated Calcutta, October 24th.

The Memorandum deals with provinces containing areas under sesamum representing about 70% of the total acreage under that crop in British India, calculated on the average of five years ending 1905–06. The first forecast on the Hyderabad crop will be received in January next, and from Bengal and Eastern Bengal and Assam in March.

The figures of acreage reported by the United Provinces, the Central Provinces and Berar, and Madras, show increases amounting respectively to 3.5, 4.6, and 7.6%; but against these must be set large decreases in the figures reported by Bombay (25%), Sind (17%), and the Panjab (19%). The total figures for all the provinces dealt with in this memorandum show a net decrease of 8.4%.

In the United Provinces, the Central Provinces, and in the northern parts of the Bombay Presidency, the crop is withering on account of prolonged drought. In Madras, Sind, and the southern parts of the Bombay Presidency, the crop is in fair to good condition. The irrigated crop of the Panjab is reported to be "fair to below average," but the state of the unirrigated crop is bad, owing to the failure of the rains.

Estimate of the acreage under sesamum in October :—

Provinces.	1907-08.	1906-07.	1905-06.
United Provinces (*a*)	320,000	309,200	278,200
Central Provinces and Berar..	847,600	810,600	792,800
Madras (*b*)	314,000	291,800	478,600
Bombay (*c*)	786,800	1,049,400	893,000
Panjab	77,100	95,500	133,700
Sind (*c*)	46,600	55,900	84,400
Total	2,392,100	2,612,400	2,660,700

(*a*) For "unmixed" crop only. (*b*) For raiyatwari villages only up to end of September. (*c*) Including Native States.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total area under sesamum in British India is ordinarily cultivated in that province.

United Provinces (20%).—The area under "unmixed" crop is at present estimated at 320,000 acres, which is slightly above last year's area. No estimate is now possible of the area under "mixed" crop, which usually constitutes more than two-thirds of the total area under sesamum in the province. The rainfall in August was favourable, and sesamum was sown on a somewhat larger scale than last year. But the crop is now withering owing to the cessation of the rains at the close of August, and the final return is likely to show a reduction in the area now estimated. The outturn is at present estimated at 25% of the normal in Bundelkhand (where more than three-fourths of the total sesamum area of the province is cultivated) and at 50% in the rest of the province. This estimate also is liable to further reduction, as the effects of the drought cannot be fully ascertained at present.

Central Provinces and Berar (18.5%).—The total area is now estimated to be 847,600 acres (755,800 in the Central Provinces and 91,800 in Berar) as compared with 810,600 acres (720,400 in the Central Provinces and 90,200 in Berar) for last year—an increase of 4.6%. The good outturn and prices obtained last year combined with favourable conditions at sowing time, induced the cultivators to extend the area under sesamum. In the August forecast the prospects of the crop were described as satisfactory. Since then, however, the seasonal conditions have not been favourable. The rainfall of August was heavy and continuous, and considerable damage was caused to the early sown crop. In the middle of that month the rain ceased suddenly, and the plants withered in several districts. The crop is now reported to be deteriorating for want of sufficient

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moisture, but a good shower of rain would improve it greatly. The state of the late sown crop is also disappointing, except in two districts. The reports received from the districts point to an outturn of 88% of the normal in the Central Provinces, and of 65% in Berar. If, however, the drought continues, the outturn is sure to be reduced.

Madras (17.2%) now reports 314,000 acres under sesamum in raiyatwari villages up to the end of September—an increase of about 8% (22,200 acres) as compared with the corresponding period of last year, but a decrease of 28% as compared with the average of the preceding five years. Villages, other than raiyatwari, report a total area of 25,500 acres, which is more than double the area reported for the corresponding period of last year. The condition of the crop is reported to be either fair or good.

The British districts of *Bombay* (8%) estimate the total area sown, so far as reported, to be 293,400 acres, which is 35.4% less than the area at the corresponding date of last year. The Native States (including Baroda) report 493,400 acres as compared with 595,500 acres at this date last year—a decrease of 17%. The decrease is attributed to the late commencement of the monsoon, to incessant rain in Gujarat and North Deccan, and to insufficiency of sowing rain elsewhere. The crop is now withering in most parts of Gujarat and North Deccan, and is expected to yield only a poor return. In South Deccan and East Karnatak the crop is fair where it has been helped by the recent rains. In the Konkan and West Karnatak it is good.

Panjab (4%) now estimates the area to be 77,100 acres as compared with 95,500 acres for last year—a decrease of 19.3%. The condition of the irrigated crop is "fair to below average." The state of the unirrigated crop is bad, and little yield can be expected, owing to the failure of the rains.

Sind (2%) reports the total area to be 46,600 acres (3,900 in Native States) as compared with 55,900 acres (4,400 in Native States) at the corresponding date of last year—a decrease of about 17%, attributed to low inundation. The condition of the crop is at present fair.

Indian Notes.

THE Government is pursuing an inquiry as to the numerous kinds of insects which produce lac in India.

Dr. Wilson has retired from the Chemistry Chair of the Madras Presidency College, after 33 years' service.

The Burmese Government propose to sell the lease of the Government rubber plantation, at Mergui, for a period of thirty years, with the right of renewal for another twenty years. The area contains about 340,000 rubber trees.

A concession of eighteen square miles, which is being worked in the Banganapalli State, is said to contain valuable deposits of copper, showing 22% of metal. It is also stated to be diamondiferous, and contains manganese.

Samples of Indian turpentine, which the Forest Department of the United Provinces is now manufacturing at its factories at Dehra Dun, Naini Tal, and Nurpur, have been sent to England for chemical examination.

The United Provinces Government proposed to allot Rs.100,000. for plague purposes this year, but this has now been increased to Rs.300,000. for disinfectants, rat poisons, chemicals, etc. Among the sums allotted, Meerut, Agra, Rohilcund, Benares, Lucknow, and Fyzabad will each receive Rs.25,000., Allahabad Rs.30,000., Gorakhpur Rs.20,000., etc.

Owing to shortage of railway wagons, there was a decrease of about 48,000 maunds of salt in the Bombay Presidency last year. The salt comes from three sources—from the Government brine works at Kharaghoda and Aden, from the sea-salt of Government and private works, and (of minor importance) imported salt. The quantity of the first-named, Baragra salt, produced, amounted to 2,362,073 maunds. The greatest difficulty was experienced in getting the natives to work at the salt pans, as they could earn double the ordinary wages as field labourers. The total quantity of salt issued for consumption in the Bombay Presidency amounted to 2,702,794 maunds, of which 519,305 were Baragra, 2,183,489 sea-salt, and 267,764 imported. Taking the population at 20,974,649, the average per head was 11.65 lbs., as against 11.05 lbs. the previous year. New salt works are being erected at Bhandup, capable of turning out 1,500,000 maunds per annum.

CHEMICALS IN CENTRAL SOUTH AFRICA.

THE following is a list of imports into the Transvaal, Orange River Colony, and Southern Rhodesia during 1906:—

	Transvaal.	Orange River Colony	Rhodesia
Candles	864,985	92,105	84,570
Cement	157,080	43,720	10,195
Drugs, chemicals, etc. ..	2,356,335	196,955	204,755
Mineral oils	330,685	94,000	38,645
Other oils	339,905	38,610	47,645
Painters' materials ..	208,840	47,560	13,785
Common soap	405,450	115,350	39,755

Trade Notes.

CASTNER-KELLNER ALKALI CO.—The directors have declared a dividend at the rate of 16% per annum for the six months ending September 30 last, making, with the interim dividend already paid, 12% for the year.

THE BRITISH WOOD PULP ASSOCIATION:—The annual dinner of The British Wood Pulp Association was held on Thursday evening last, at the Midland Hotel, Manchester, a goodly number of gentlemen connected with the pulp and paper trades attending.

PLATINUM PRICES.—Platinum still droops, and prices in the Urals are now quoted 5 roubles 15 copecks down to 4 roubles 60 copecks per solotnik, for 83% metal content. No business is being done, consequently considerable stocks are now accumulating.

THE SANTA CATALINA NITRATE CO., after deducting £7,755. for depreciation, etc., has an available balance for the year ended June 30, of £31,151. The directors propose a final dividend of 10%, making 35% for the year, to transfer £1,000. to general reserve account, and to carry forward £2,501.

THORNTON COAL AND LIME CO. LTD.—Capital £4,000., in £1. shares. This company has been formed to acquire the business of The Thornton Coal and Lime Co., Thorntonhall, and to carry on all or any of the businesses of coal, ironstone, fire-clay and limestone mining, etc. The first directors are C. J. Anderson, J. Gray, W. Cumming and R. Clelland; qualification £100.; remuneration £25. per annum each (chairman £50.). Registered office, 113, W. Regent-street, Glasgow.

THE CASTOR PLANT IN FORMOSA.—The United States Consul at Tamsin reports that although the castor plant grows wild in parts of Formosa, nothing has been done to utilise the beans produced by this plant for the manufacture of oil. He adds that several Japanese have recently interested the Formosan Governmen tin the possibilities of the plant, and steps are now being taken to utilise the bean in the production of castor oil. The wild plants found here are of two varieties, one of which is dark green and the other red in colour. The beans produced by the latter are twice the size of those produced by the former, and are thus more valuable as oil producers. Formosa is never visited by frosts, except in the higher mountain altitudes, hence the castor plant is enabled to produce more beans than the plants found in more temperate regions. As castor oil is extensively used in the arts, those interested in the industry in Formosa hope to find no difficulty in disposing of their products in Japan.

OLIVE OIL ADULTERATION IN SPAIN.—Owing to the abnormally high prices at which olive oil is being sold this year some dealers have resorted to the practice of adulterating olive oil with linseed or sesame oil, in order to bring it within the reach of their poorer customers; indeed, some manufacturers of these seed oils have prepared a special grade from the first crushings which is being used for the purpose. According to a United States Consular Report, representations have been made to the Spanish Government with a view to protecting the interests of the manufacturers of olive oil, but some of the leading olive-oil crushers have held aloof, considering such action futile, inasmuch as the prevailing conditions will, in all probability, have disappeared within a few months, and the enforcement of existing municipal by-laws and regulations is all that is required to all insure that no olive oil be sold as such which contains any admixture of other oils. The alleged cases of adulteration refer solely to oil for local consumption, and not to manufacturers with accredited brands which are sold for export.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Production of Silicates of Soda and Potash. W. Gossage and Sons, Ltd., and R. E. Weismuller. 23,794. October 28

Candle-making. F. Englehorn. 23,796. October 28.

Feed-water Heaters. W. H. Brown. 23,841. October 29.

Pipe Joints. A. Fessard and J. Brachman. 23,879. October 29.

Storing Explosive Liquids. W. Heer. 23,866. October 29.

Separation of Zinc from its Ores or Compounds. W. Hommel and H. L. Sulman. 23,901. October 29.

Electro-Deposition of Copper. H. W. Brownsdon and B. A E. Payne 23,907. October 29.

Consuming Smoke. H. Thomson. 23,951. October 30.

Tungsten. F. Harrison. 23,988. October 30.

Calorimeters. C. Féry. 23,966. October 30.

Explosives. Anglo-French F. and S., Ltd., and Sir J. B. Edwards. 24,025. October 30.

Kilns. R. J. Hadlington. 24,068. October 31.

Petrol, Alcohol, Benzol, etc. R Wynne 24,115. October 31.

Non-inflammable Benzene. A. Cooper and M. M. Shallock. 24,125. Oct 31.

Raising or Circulating Liquids, Granular, Substances, etc. M. W. Household and A. Cameron. 24,181. November 1.

Electro-deposition of Metals. A. Hill. 24,189 November 1.

Refuse Destructors. W. E. Storey. 24,219. November 1.

Grinding Mills. W. S. Barron and G. S. Barron. 24,228. November 1

Filters. M. J. Adams. 24,250. November 2.

Conversion of Sulphurous Acid into Sulphuric Acid, and the Extraction of Copper from its Ores. A. J. Boult. 24,273 November 2.

Welding Aluminium. M. U. Schoop. 24,283. November 2.

Ore Concentrators. U. S. James. 24,311. November 2.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Purifying Waste Water. Girerd and Drapier. 24,172.

Feed-water Heaters. Thomas. 24,333.

Obtaining Aluminium, Silicon, etc., from Oxides. Viel. 24,352.

Conveyors. Marks. 24,550.

Conveyors. Marks. 24,551.

Soap Manufacture. Karsam Soap Co., Samuel, and Lockwood. 24,822.

Electrolytic Deposition of Metals. Cowper-Coles. 24,986.

Electrolytic Deposition of Metals. Taylor. 26,144.

1907.

Artificial Rubber. Brownlow. 2,065.

Iodine Preparations. Newton. 2,484.

Hydrate of Lime. Schulthess. 3,210.

Filter Presses. Stevens. 3,650.

Sulphide of Zinc. Meyer. 5,032.

Electrodes for Electrolytic Purposes. Johnson. 5,223.

Bleaching Kieselguhr. Thomson and Barr. 5,379.

Centrifugal Drying Machines. Macfarlane. 6,171.

Leuco-gallo Cyanine. Johnson. 9,961.

Stable Anhydrous Hydro-sulphites. Johnson. 10,771.

Grinding Mills. Behr. 11,304.

Crushing, Dividing, or Disintegrating Ores, etc. Hardinge. 12,719.

Steam Superheaters. Henninger. 15,109.

Oxalates from the Corresponding Formates. Elektro chemische Werke Ges. 19,943.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Process for Obtaining Pure Copper. Lucien Juman, Rue Mogador, Paris. British Patent, 530. Date claimed under International Convention, June 26, 1906.

It has been stated that when cupric sulphate is heated in solution with sulphurous acid, a salt of copper is precipitated and free sulphuric acid formed, and that this reaction may be used as a means of separating copper by precipitation from solutions obtained by leaching ores. The inventor has discovered that when a salt of copper is heated in a closed vessel under pressure in presence of sulphurous acid, the salt of copper is reduced to pure metallic copper, while the sulphurous acid is oxidised to sulphuric acid. Starting with a solution of sulphate of copper produced by leaching an ore, it suffices to dissolve in this solution a certain proportion of sulphurous acid sufficient to realise the equation $CuSO_4 + SO_2 + 2H_2O = Cu + 2H_2SO_4$, to introduce the liquid thus prepared into a digester made of copper or iron lined with lead, for instance, and to heat the liquid in this digester, under the pressure generated, to a temperature in the neighbourhood of 170° C. The reaction is very rapid, and precipitated copper and sulphuric acid are the products. Setting aside certain intermediate reactions, the result of the operation may be expressed by the equation $CuSO_4 + SO_2 + 2H_2O = Cu + 2H_2SO_4$. The copper thus obtained is very pure, frequently containing 99.9% of the metal, for, apart from the gold and silver which may be found in the presence of copper, none of the ordinary metals which generally accompany copper is precipitated under these conditions. Instead of sulphurous acid, sulphites may be used, which in this case are converted into sulphates. If the precious metals are present they may be separated by a preliminary treatment of the solution of copper with sulphurous acid at a raised temperature, but under ordinary pressure. In this manner the precious metals are alone precipitated in the metallic state and can be recovered. By subsequently operating under pressure, as has been indicated above, the copper is separated in a pure state. The process yields, therefore, pure precipitated copper on the one hand, and, when sulphurous acid is used, sulphuric acid on the other hand. The copper may be fused or simply compressed into briquettes by hydraulic pressure. These briquettes may be used directly as anodes in ordinary electrolytic refining vats, if it is desired to separate in this manner, the precious metals not previously eliminated. The sulphuric acid may be applied for numerous purposes, and notably for the leaching of the ores. The method is particularly advantageous for the treatment of sulphide ores. During the roasting of these the sulphurous acid necessary in the treatment is produced, this acid being transformed very simply in the treatment itself into sulphuric acid.

Improvements in or relating to the Manufacture of Cement. The Collos Portland Cement Co., Ltd., 139, Cannon-street, London, E.C. (Communicated by Dr. Heinrich Colloseus, 29, Pragerstrasse, Berlin.) British Patent, 1,647. January 22, 1907.

The invention relates more especially to the system of cement manufacture wherein a dry cement is obtained directly, by the injection of suitable salt solutions into a stream of slag, in such a manner as to yield at once a pulverised material containing a uniform and intimate mixture of salts. The object of the present invention is to enable a slag cement to be obtained in the direct manner indicated, which shall possess a particularly high degree of resistance to the action of sea water.

Instead of treating the molten slag with solutions of alkaline or alkaline earth compounds, the solutions employed are those of iron compounds or of compounds of metals associated with the iron group, such as chromium, nickel, manganese and the like, though for commercial reasons the iron compounds are those usually employed, and of these the sulphate is generally found most convenient, though the chloride may also be used.

It has been found that when treated in the manner indicated, the presence of the iron salts (or the like) intimately distributed throughout the mass, gives to the slag cement (when used and allowed to set in the ordinary way, like Portland cement) the power to resist the action of sea water very effectually, and to a much greater extent than in the case when alkaline or alkaline earth salts are employed.

In one example of the mode of carrying out the invention, the stream of slag is run upon a revolving cylinder having perforations through which the salt solution is projected radially into the body of the slag, the arrangement being as set forth, for instance, in the Specification of British Patent No. 14,329, of 1905. In this way, whilst the water of the solution is instantly evaporated, the slag itself is disintegrated and pulverised, and the salt is left in intimate or molecular contact therewith, distributed evenly throughout the powdered mass which collects at the bottom of the apparatus.

As examples of the proportions to be employed, the patentees state that in the case of a slag containing 32% of silica and 40% lime, a 5% solution of sulphate of iron may be employed and be made to act on the finely pulverised blast furnace slag in sufficient quantity that, after the water has completely evaporated, the iron salt remaining in the pulverised slag forms approximately 1% of the whole. If the slag contains only 40%

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or less of lime, and a higher percentage of silica, for instance 39% of lime, and 40% of silica, then a 10% solution of sulphate of iron may be employed in the manner indicated above to yield a mass containing approximately 4% of the residual iron salt. Thus it may be stated that about 0.6% of the salt are injected into slags containing 50% lime, whereas 1% is used for slags containing 45% of lime, and from 1.5 to 10% for slags containing 40% or less lime.

Improvements in Lead Chambers for the Manufacture of Sulphuric Acid. L. G. Fromont, 201, Avenues Brugman and Albert and Elizabeth, Bruss ls. British Patent, 4,861. February 28, 1907.

The object of this invention is best indicated by the claims, which are :—(1.) A lead chamber for the manufacture of sulphuric acid, in which, in order to provide a maximum of radiating surfaces, the walls are made of an undulatory section, with or without plates, forming radiating plates, or are constructed of planes provided with radiating plates, and may also have their exterior surfaces matted, roughened or unpolished. (2.) A lead chamber for the manufacture of sulphuric acid, in which a maximum of radiating surface is obtained by the arrangement, within the chamber, of inwardly extending baffles or re-entrant parts. (3.) A lead chamber for the manufacture of sulphuric acid, in which the maximum of radiating surface is obtained by the constructions referred to in Claims (1) and (2) and characterised by the employment of a roof of an elliptical form, with undulations, the latter constructed with or without radiating plates. (4.) A lead chamber for the manufacture of sulphuric acid, in which the maximum of radiating surface is obtained by the constructions referred to in Claims (1) and (2) and characterised by the facts, that the radiating efficiency of the said surfaces is preserved by the employment of means of suspending the chamber, which are entirely metallic ; that the chamber is maintained sufficiently removed from the walls of the framing as to admit of the chamber suspension attachments being provided for its whole length and arranged so as to allow the free expansion and contraction of the said chamber ; and by the fact that the roof is freely suspended by a metallic arch, from the upper frame of the structure.

An Improved Process for Oxidising Borneol or Isoborneol for the Manufacture of Camphor. A. Verley, E. Urbain and A. Feige, 27 Rue Notre-dame de Nazareth, Paris. British Patent, 14,550. June 24, 1907.

This invention relates to a process for oxidising borneol or isoborneol for the manufacture of camphor.

The inventors observe that it is known that all oxidising agents transform borneol and isoborneol into camphor, but it is very difficult to avoid formation of products of oxidation of the camphor itself. The process according to this invention avoids the formation of such products by using as the oxidising agent a chromic acid mixture which is active in the cold.

It is known that sulphuric acid can form several combinations with chromic acid ; these combinations part with their oxygen in the cold with the greatest facility in presence of oxidisable matters. A very active combination is produced by making a mixture under the following special conditions :—50 parts of sodium bichromate are dissolved in 50 parts of water. After dissolution there are added 68 parts of sulphuric acid of 66° Baumé specific gravity. The following equation is realised :—

$$Na_2Cr_2O_7,2H_2O + 3H_2SO_4 = Na_2SO_4 + 2(CrO_3,SO_3,H_2O) + 3H_2O.$$

The borneol or isoborneol is dissolved in any non-oxidisable solvent, preferably carbon tetrachloride, $C\,Cl_4$, because after oxidation the solution containing the camphor will be at the lower part of the mixer wherein the oxidation is effected, and this solution need merely be drawn off.

The chromic acid mixture is diluted with water until it has become six times its original volume. The solution of borneol or isoborneol is added, in such proportion that the excess of the chromic acid mixture is one-third of that theoretically required. After agitating for two hours, the oxidation is at an end ; the solution of camphor is separated and there is added to the solution of the chromic acid mixture (spent as to three-quarters) the theoretical quantity of the undiluted mixture prepared as aforesaid, the said theoretical quantity being relative to the weight of borneol or isoborneol to be oxidised. In this manner the same liquid can be used over and over again until saturated with chromium sulphate.

Improvements in Electric Furnaces. H. Pauling, 84, Wilhelmstrasse Gelsenkirchen IV., Westphalia British Patent. 18 990. August 22, 1907.

The inventor claims :—(1.) In an apparatus for producing voltaic strong-current arcs, the combination of a pair of diverging electr des with means for blowing a current of gas through the space of greatest proximity of the electrodes and in the direction of divergence thereof, the said space being large enough not to disturb a free passage of the said gas current, and with means for starting the discharges. (2.) An apparatus as defined in the preceding claim, characterised by the feature that the said means for starting the discharges is constituted by a pair of auxiliary electrodes electrically connected to the said main electrodes and extending into the space between the latter. (3.) An apparatus as pointed out in Claim (2) characterised by the said auxiliary electrodes being adjustable.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

W. J. K.—Thanks for addendum, which has our attention.

W. G. W.—We have passed this matter through, in the usual course.

J. E. B.—The paragraphs mentioned appeared in the *Journal*, and you will have received our letter bearing on the point.

J. J. G. and Sons.—Thanks for your letter. We should like to have the matter and blocks within the next fortnight, if possible.

S. C. W. S., Ltd. — The point raised is of interest, and we are looking into the matter. Meantime we have written you by post.

G. S. and S. (L.) Ltd.—We shall be pleased to deal with the subject of your first letter in our forthcoming Special Issue. We regret that a further card was sent you respecting subscription ; this was entirely an oversight.

DUTCH MADDER.

MESSRS. W. BUNGE & CO., of Rotterdam, report as follows, under date November 7th :—

The first casks of the new crop have been offered, and show a satisfactory quality. The old stock only amounts to about 50 casks, and it is expected that the new casks will find a ready sale.

Present quotations per cwt., in original butts, actual tare, f.o.b. Rotterdam, are :—

Fine crop	at	54s.
Small crop	,,	47s. 6d. to 51s.
Fine ombros	,,	42s. 6d. to 47s.
Good ombros	,,	30s. to 44s.
Small ombros	,,	30s. to 44s.
Regrounds	,,	30s. to 44s.
Mulls	,,	11s.
Roots	,,	— ..
Garancine	,,	50s. to 75s.

A Far East Cement Factory.—The *Torg. Prom Gazeta* states that a company is being formed for the installation and exploitation of a Portland cement factory in the Amur Province. The capital is £75,000.

Russian Electrolytic Copper.—" Copper " is the name of a company being formed for the purpose of exporting and manufacturing copper in Russia by the electrolytic process, with a capital of £50,000.

Municipal Electricity.—The West Ham Corporation Electricity Department has just secured a contract with the Co-operative Wholesale Society to supply their flour mills and their new soap factory at Silvertown with electrical power for all purposes. The contract is based on an annual consumption of five-and-a-half million units—a supply which exceeds in amount the total output of many of the large provincial towns which have municipal electricity undertakings. For power purposes West Ham charges only 1d. per unit, giving special discounts to large consumers, and recently the Department has installed many of the factories in the district with electrical plant

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Nov. 6.
120,000	1	1	Bell's Asbestos ... ord	1⅞ 2
	Stock	100	Borax Consol 4½% deb. stock red	107½
80,000	10	10	Do. 5½% cum. pref.	10⅝
1,356,477	1	1	Bradford Dyers ... ord.	23/4½
1,50.,000	1	1	Do. ... 5% c.p.	20/9
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/- 12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	40/-
10,000	10	10	Do. ... 6% c.p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	5 1/16 5 3/16
82,678	10	10	Do. 7% pref	15⅞ 16⅛
96,000	5	5	Bryant and May ... c.p.	12 12½
40.000	10	10	Buxton Lime Firms ord.	6 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	25/-
450,000	1	1	Castner Kellner ... ,,	27/1½
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	6	3	Cleveland Salt ... 6% m.p.	3 3½
20,000	10	10	Crosfield J., and Sons c.p.	9¾ 10
85,000	1	1	Fletcher, Russell, & Co. ord.	28/6 28/9
5,000	10	10	Do. 6% c.p.	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	90 92
50,000	10	10	India Rubber Co. ... ,,	14½ 15½
	5	5	Lagunas Nitrate ... ,,	3 3¼
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11 11½
200,000	10	10	Lever Bros. ... 5% c.p.	10⅝ 10⅞
400,000	10	10	Manchester Ship Canal ord.	19/9 20/3
400,000	10	10	Do. per 5% pref.	29/6 30/-
120,000	1	1	Mandelberg ... ord	1⅜ 1⅝
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	8½ 9
228,540	10	10	Nobel Dynamite Trust ,,	15 9/16
	10	10	Do. share warrants	15⅜
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	37/-
	1		Pears, A. and F. ... ,,	30/3 31/3
70,000	10	10	Pease and Partners ... ,,	11½ 12
37,500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	13
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	64¼
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
196,962	1	14/7	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	14/6 15/-
100,000	6	6	Do. ... 7% n.c.p.	4 4¼
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	⅝ ¾
	1	1	Schibaieff Petroleum ,,	5/32
£6,250,000	Stock	100	South Metropolitan Gas ,,	120
45,000	10	10	Steiner, F. and Co. 5% c p.	9 9½
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼
289,343	10	10	United Alkali ... ord	72/9
282,524	10	10	Do. ... 7% pref.	10⅞ 11⅛
80,000	1	1	United Indigo & Chemical ord	2/- 2/6
66,665	5	5	Willans and Robinson ,,	1 3/16 1 6/16
210,000	1	1	Woolcombers ... 7% c.p.	19/- 19/6
1·3,202	4	4	Young's Paraffin ... ord.	70/-

Sulphate of Ammonia in Germany.—A sulphate of ammonia plant is to be laid down in connection with the coal mine at Salzernenach (Essen) belonging to Krupp's.

Society of Dyers and Colourists.—The first meeting of the Manchester section of this society was held on Friday week at the Municipal School of Technology. The Chairman (Mr. W. H. Pennington) referred in fitting terms to the great loss which the society had sustained since their last meeting, by the death of their President, Sir William Perkin, founder of the aniline dye industry. A paper was read by Mr. Berthold Wuth entitled "The Hydrosulphites and their Technical Applications." Although the solid hydrosulphites were, he said, of comparatively recent date as commercial articles, their application in the textile colouring industries, especially in calico printing, had made rapid progress, with the result that at the present time effects could be obtained which were formerly unknown.

NEW YORK PRICES CURRENT.

Oct. 22, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 25
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 8
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 7
,, ,, ,, Continental	,,	0 7
Ammonia, Carbonate, lump	,,	0 7⅞
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 35
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 5½
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7¼
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 85
,, Prussiate	per lb.	0 10
Sulphur, Brimstone (best thirds)	per ton	20 0

Market Reports.

THE INDIGO MARKET.

Messrs. Millward and Co. report as follows, under date November 12th :—

Since the October auctions a moderate but continuous business has been transacted, both for home and export, at steady prices. Holders of the rather restricted stocks show no disposition to force business, and a continuance of hand-to-mouth buying, at full prices, seems probable, pending arrival of new crop supplies. Then, of course, events will be largely shaped by the Calcutta auctions. It is anticipated that the total out-turn of the new crop will be about the same or rather less than last year, say 26,000 to 28,000 maunds, against about 28,000 maunds last season. Stocks in all the distributing centres are very small, and if there is good general buying prices may be fully upheld or slightly advanced. The average quality will not be so high as last season, but planters are hoping to realise as much for their good to fine grades as they did last year for their fine to superfine. There will be a much larger selection from the present crop of good medium indigo, testing about 60%, and which has been scarce and badly missed this year. The general outlook is not unfavourable, and, the speculative element having been eliminated from the trade, a fairly regular, legitimate business may now be anticipated, with increasing dimensions when climatic conditions result in increased supplies and cheaper prices; there are unmistakeable signs of a revival of favour in this natural and most satisfactory dye when the time does arrive Deliveries from London Jan. 1 to Oct. 30 this year were 2,588 chests and 558 serons, against 2,923 chests and 779 serons last year. Stocks in London on Nov. 1 were 2,301 chests and 195 serons, against 2,058 chests and 370 serons last year. Deliveries from Manchester have almost exhausted the stocks held there.

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THE AMERICAN CHEMICAL MARKET.

NEW YORK, October 28th, 1907.

(Rate of Exchange, $4.83 = £1.)

Nitrate of soda is dull at $2.40. per 100 lbs. Sulphate of ammonia is unchanged at $3.05. per 100 lbs. Grey muriate steady at 66¼c. as to make. White muriate for electrical purposes weak at 5⅝c. to 6c. per lb., with considerable offerings. Lump sal ammoniac 9¼c. per lb. Lump carbonate of ammonia steady at 7⅜c. to 8c. for spot, but next year's contracts are keenly competed for, and prices are inclined to be shaded. Sulphate of copper is firmly held at 5½c. by the Syndicate. White powdered arsenic remains steady at 6⅞c. to 7c. for prompt and a little less for future shipment. Red Saxony arsenic 7½c. per lb. Bleaching powders are steady at $1.15. to $1.25. per 100 lbs. Alkali is in good demand, at 92½c. for light 58%, in bags, f.o.r. makers' works, and caustic soda, 74%, is quoted at $2.10., same conditions. Carbonate of potash, calcined 80-85%, is 3¾c. to 3⅞c. per lb., and hydrated, same test, 4¼c. to 4⅜c. Chlorates are 8½c. for soda, and 8¾c. for potash, f.o.r. makers' works, under syndicate control, and next year's prices have been fixed at the same price. Prussiate of soda 9¼c. for prompt, and potash 15½c. Bichromates of soda and potash are respectively 7⅞c. and 8⅝c., and are in usual fair demand. Antimony products are showing a weakening tendency, with oxide quoted at 10½c., and antimony salts, 47%, at 12c. per lb. Oxalic acid is in more plentiful supply, and is offered on spot down to 7¾c. per lb. Naphthaline balls for next year's delivery are offered at $2.25., and flakes at $2.15. per 100 lbs.

TAR AND AMMONIA PRODUCTS.

THURSDAY.

Benzols quiet, with quotations given at 9d. for 90's, and 8¾d. for 50-90's, casks included. Crude tar, 14s. 6d. to 18s. 6d. per ton, Thames; 1⅛d. to 1⅛d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 24s. to 24s. 3d., f.o.b.; Gas Company, 26s. 6d.; East Coast, 22s 9d. to 23s. 3d.; West Coast, 22s. to 23s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 10d. to 10½d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 5d. to 1s. 5½d.; 60%, 1s. 7¾d. to 1s. 8d.; 75%, 1s. 11¾d., casks included. Crystals, 39-40, 5⅛d.; 34-35, 4⅝d. to 5d. Cresylic, 95%, 1s. 1d. to 1s. 1¼d. Anthracene, 40 to 45 per cent. A, 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia steady. Nearest values are:—Beckton, to end of year, £12. 7s. 6d. to £12. 10s.; next year, £12. 7s. 6d. to £12. 10s.; Beckton terms, £12. 2s. 6d.; London, £11. 8s. 9d. to £12.; Hull, £12. 2s. 6d.; Liverpool, £12. 2s. 6d. to £12. 3s. 9d. Manchester, £12.; Leith, this year, £12. 7s. 6d. to £12. 10s.; next year, £12. 7s. 6d. to £12. 10s.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s., and refined, 11s. 1½d. Official quotations:—Cargoes, off coast or due, 10s. 9½d.; ditto for prompt shipment, 11s. 1d.

THE LONDON METAL MARKETS.

WEDNESDAY.

Copper: Standard brands, £59. to £59. 5s. cash, and for three months. Tin: G.M. quality, £137. to £137. 10s. cash, and £138. 15s. to £139. 5s. three months; English, £140. Lead: Soft foreign, October, £18. 10s.; November, £18.; December, £17. 12s. 6d.; February, £17. 15s.; English, £18. 15s. to £18. 17s. 6d. Spelter: Ordinary brands, prompt, £21. 7s. 6d.; January, £21. 5s.; February, £21. 2s. 6d.; hard, £18., f.o.b. Antimony, £38. to £40.; ore, £11. to £12. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £110. Wolfram, 35s. Pig-iron closing prices: Cleveland, 51s. 2d. cash; 50s. 8d. one month; 50s. three months.

FERTILISER MATERIALS.

FRIDAY.

The market for nitrogenous material has been rather quiet during the past week, but there is no pressure to sell, and prices are fairly well maintained.

Mineral phosphates are without any new feature to comment upon.

The value of East Indian bone meal remains unchanged at £4. 18s. 9d. per ton, nett cash, c.i.f. Liverpool, for near shipment; whilst on spot the quotation is still £5. 5s. to £5. 10s. per ton ex store, according to quality.

Nitrate of soda is again somewhat easier, and there are sellers to-day at 11s. per cwt., ex store Liverpool, for ordinary, and at 11s. 1½d. for refined quality.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

Reports from all quarters indicate a fairly steady demand for heavy chemicals, both home trade and export. Sulphate of copper has again declined in price to £21., f.o.b., for spot, and £20. 10s. to £20. 15s. for spring shipment. Owing to the continued fluctuation of prices, business in this article is somewhat unsettled. Quotations for caustic soda and bleaching powder are unaltered. Chlorates of potash and soda are now offering, for 1908 contracts, at 3½d. per lb. Saltcake is firm at 42s. 6d., nett, carriage paid, and makers are fairly well sold for next year. Recovered rock sulphur steady at £4. 10s., f.o.r. Nitrate of soda 11s. 3d. to 11s. 4½d. per cwt., f.o.r. Liverpool. There is good inquiry for prussiates, both spot and forward, and quotations are unchanged at 5⅞d. and 3⅝d. per lb., for potash and soda respectively. Carbonate and caustic potash are still in short supply, and high prices are being obtained. American acetate of lime is quiet, and values are slightly lower; grey, £12. 5s. to £12. 7s. 6d., c.i.f.; brown, £8. 5s. per ton; other acetates are rather slow of sale. The demand for white powdered arsenic is very small just now, and quotations are weaker at £28. 10s. to £29., Garston, for best brands. Green copperas continues scarce and dear; Welsh makes are selling at 20s., f.o.r. Oxalic acid steady at 3¾d. per lb.

LIVERPOOL DRYSALTERIES.

THURSDAY.

Montreal potashes very quiet, with quotations given at 35s. 9d. per cwt. Pearl ash nominal. Logwood in moderate demand. Cutch quiet. Gum copal in fair inquiry for Arabic at recent values. Castor oil quietly firm at 3⅝d. for good seconds Calcutta on spot, and 3⅜d. for November-December; French 3⅞d. for first pressure, and 3½d. for second pressure. Gambier: Block, 23s. 6d. per cwt. on spot; November December shipment, 21s.; and December-January shipment, 20s. 6d. Cubes, 29s. 6d. per cwt. on quay. Shellac dull: Fair TN orange, January-March shipment quoted at 102s., and March delivery at 106s. to 107s. Glucose firm: American liquid, 43%, 12s. 6d. on spot, and 12s. for October-December delivery; for prompt shipment, 10s. 1½d., and for October-December, 9s. 7½d., c.i.f., for shipment. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s. c.i.f., for shipment. Cream of tartar, 98% foreign powder, 88s. to 89s.; 95% 86s. to 87s. Tartaric acid: English, 11½d. on spot, and foreign, 11d. Citric acid: English, 1s. 8½d.; foreign, 1s. 8½d.

LIVERPOOL OIL AND COLOUR MARKET.

THURSDAY.

OILS.—Palm oil dull; sales reported including Benin, on spot, at £27. 5s., and Old Calabar, on spot, at £28. 5s. per ton, both in transit. Linseed oil quiet, at 25s. to 26s. per cwt. for Liverpool makes in export casks. Cottonseed oil in fair demand at 25s. 3d. to 26s. 3d. per cwt. for Liverpool refined in export barrels. Tallow inactive. Turpentine quieter at 36s. per cwt. for spot parcels. Petroleum in moderate inquiry at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

HULL PAINT, OIL, AND COLOUR REPORT.

THURSDAY.

OIL.—Prices on the whole are lower than a week ago, although better at the time of writing than they have been. Turpentine, being particularly an American commodity, has suffered most, with a drop of 30s. per ton. Shipments of linseed have been upon a small scale, in spite of which the market has been weak and declining. Cottonseed imports have been large, and in sympathy with America has declined 3s. 9d. per ton. Amongst the principal weekly imports are:—Flour, 1,840 cwts.; wheat, 178,799 cwts.; Linseed, 13,250 qrs.; cottonseed, 5,365 tons; castor seed, 3,475 qrs.; rapeseed, 10,875 qrs.; lard, 2,079 cwts.; margarine, 3,001 cwts.; sugar, 15,414 cwts.; glucose, 40 cwts. Hemp, 1,170 cwts.; colours, 657 pkgs.; oilcake, 80 tons; hides, 631 cwts.; wool, 17,695 lbs. Amongst the weekly exports are:

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Colours, 3,019 pkgs.; oil, 9,849 cwts.; chemicals, 1,984 pkgs. Linseed oil opened firm, and closed dearer; naked, spot, 22s. 4½d.; November-December, 22s. 4½d.; January-April, 21s. 6d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week, 25 tons, against the corresponding week last year of 20 tons. Linseed, La Plata, 42s. 6d., spot; same price on passage; October-November, 42s. 6d.; 1,500 tons sold December January at 40s. 6d. up to 41s.; January-February, 700 tons sold at 40s. 3d.; 300 tons February-March sold at 40s. 6d. Refined cotton oil opened easy, closed firm; naked, spot, 22s. 3d.; month, 22s. 3d.; November-April, 22s. 3d.; crude spot, 21s.; November-April, 21s.; casks £1. and barrels £1. 7s. 6d. per ton extra. Exports for the week have been 247 tons, against same week a year ago 455 tons. Cottonseed, spot, sold at £6. 17s. 6d.; afloat sold at £6. 17s. 6d.; ditto, November; November-January, £6. 18s. 9d.; sellers, Bombay, November-December, £6. 1s. 6d., Hull. Turpentine, flat, spot, 35s. 3d.; December, 35s. 9d.; January-April, 36s. 6d.; May-June, 36s. 9d.; Russian ditto lower, 20s. Castor oil made here, November-December, 31s. for 1sts to July-December, 30s. 3d.; seconds, £1. per ton lower. Olive oil, Levant, £41. to £42. per tun. Resins a turn lower, according to grade.

CAKES.—Linseed, 95% pure, £7. 15s. to £8.; Russians, £7. 15s.; Canadian, £8.; oilcake, £6. 15s.; cotton cakes, best, £5. 2s. 6d.; Bombay, £4. 7s. 6d. Rape meal, feeding, £5. 5s. Manure, £4. 5s.

TYNE CHEMICAL REPORT.

THURSDAY.

Market steady with a moderate demand. Caustic soda is firm at £10. 5s. per ton for 70% and £11. per ton for 76-77%. Bleaching powder £5. to £5. 5s. per ton. Soda crystals quiet at £3. to £3. 2s. 6d. per ton gross weights. Sulphur scarce and firm at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £10. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market here is steady with a good inquiry, and prices are firmly held for shipment to end of year. There is an active demand for gas and steam coals. Current quotations are:—Best Northumbrian steam, 15s. to 15s. 6d. per ton; seconds, 14s. to 14s. 6d. per ton; small steam, 10s. to 10s. 6d. per ton; Northumberland unscreened, 12s. per ton; best gas coals, 15s. to 15s. 6d. per ton; Durham bunker coals, 12s. 6d. to 13s. per ton; coking coals, 14s. per ton; household coals, 16s. 6d. to 17s. per ton; foundry coke, 22s. per ton; gas coke, 19s. to 19s. 6d.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

The feeling in the ordinary heavy chemicals is slightly quieter in tone, but values are not appreciably affected. Sulphate of copper is rather steadier, and the figure of £24. has held practically unchanged for some days. Sulphate of ammonia has gained a little as regards spot dealing; the forward basis still remains without any real renewal of actual business. The outlook for the calico printers and the cotton dyers has not improved, but rather the reverse owing to the increased uncertainty as to future supplies of cotton. Still, the market for colour chemicals and drysalteries, though easy, shows no loss to speak of. In the section of mineral oils and paraffins a regular steadiness is the rule, with prices firm, and a good daily volume of business passing. The 865° gravity of lubricants is again scarce, and a fraction dearer.

Chief prices current are:—Alum (in lump), £5. 5s. to £6., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda- 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5⅞d. to 5⅞d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s. to £12 6s. 3d., prompt, f.o.b. Leith; sulphate of copper, £24. less 5% Liverpool, prompt.

New Companies.

Belgian Asbestos Lubricating Co. Ltd.—Capital £10,000., in £1 shares. This company has been formed to take over the agency in Belgium for the sale of oils, asbestos, lubrications and other products of the General Lubricating Co. of Philadelphia, U.S.A., and to adopt an agreement with A. R. Harvey. No initial public issue. The first directors are E. L. Bell and A. R. Harvey; remuneration 10% of the net profits available for distribution, divided.

British and Colonial Camphor Co. Ltd.—Capital £100,000., in 30,000 A and 70,000 B shares of £1 each. This company has been formed to adopt an agreement with La Compagnie Française du Camphre and to carry on the business of manufacturers, distillers and refiners of, dealers in, and agents for the sale of camphor, celluloid and turpentine and their derivatives. No inital public issue. The first directors are to be appointed by the subscribers; qualification, £1,000.; remuneration, £100. each per annum (chairman, £50. extra). The A shares rank first for 6% dividend, and participate *pari passu* with the B shares in any surplus after 6% has been paid on the latter also.

Chemical Research Syndicate Ltd.—Capital £500., in 1s. shares. This syndicate has been formed to carry on the business of scientific or manufacturing chemists, manufacturers of and dealers in medicines, foods, wines, spirits, chemical products and commodities, etc. No initial public issue. Registered without articles of association.

Cofner and Achner Ltd.—Capital £2,000., in £1. shares. This company has been formed to carry on the business of chemists, druggists, drysalters, oil and colourmen, opticians, manufacturers of electrical, surgical and scientific apparatus, etc. No initial public issue. Registered without articles of association. Registered office, 113, Leadenhall-street, E.C.

Danish Asbestos Lubricating Co. Ltd.—Capital £1,000., in £1. shares. This company has been formed to take over the agency in Denmark for the sale of oils, asbestos, lubrications and other products of the General Lubricating Co. of Philadelphia, U.S.A., and to adopt an agreement with A. R. Harvey. No initial public issue. The first directors are E. L. Bell and A. R. Harvey; remuneration, 10% of the net profits available for distribution, divided.

Harlington Lime Works Ltd.—Capital £10,000., in £1. shares. This company has been formed to acquire the business carried on by J. Ince and Mrs. M. A. Ince, at Harlington, Beds, as the Harlington Lime Works, to adopt an agreement with the said vendors and E. Wilkins, and to carry on the business of lime, cement, brick, tile, pipe, coal and coke merchants, etc. No initial public issue. The first directors are J. Ince and E. Wilkins. Mary A. Ince may, while holding 3,000 shares, appoint a director; qualification, £200.; remuneration of E. Wilkins, as secretary,

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not less than £156. per annum. Registered office, 46, Queen Victoria-street, E.C.

German Asbestos Lubricating Co. Ltd.—Capital £10,000. in £1. shares. This company has been formed to take over the agency in Germany for the sale of oils, asbestos, lubrications, and other products of the General Lubricating Co. of Philadelphia, U.S.A., and to adopt an agreement with A. R. Harvey. No initial public issue. The first directors are E. L. Bell and A. R. Harvey; remuneration, 10% of the net profits available for distribution, divided.

New Dynant Anthracite Colliery Ltd.—Capital £50,000., in £1. shares. This company has been formed to carry on the business of colliery proprietors, miners, waggon builders and repairers, manufacturers of gas, coke and patent fuel, etc. No initial public issue. The first directors are to be appointed by the subscribers; qualification, £250.; remuneration (except managing director), £200. each per annum, and £50. extra for the chairman. Registered office, Norfolk House, Laurence Pountney Hill, E.C.

Netherlands Asbestos Lubricating Co. Ltd.—Capital £6,000., in £1. shares. This company has been formed to acquire and carry on the agency in Holland for the sale of oils, asbestos, lubricants and other products of the General Lubricating Co. of Philadelphia, U.S.A., and to adopt an agreement with A. R. Harvey. No initial public issue. The first directors are E. L. Bell and A. R. Harvey; remuneration, 10% of the net profits available for distribution, divided.

Scandinavian Asbestos Lubricating Co. Ltd.—Capital £2,000., in £1. shares. This company has been formed to acquire and carry on the agency in Norway and Sweden for the sale of oils, asbestos, lubrications and other products of the General Lubricating Co. of Philadelphia, U.S.A., and to adopt an agreement with A. R. Harvey. No initial public issue. The first directors are E. L. Bell and A. R. Harvey; remuneration, 10% of the net profits availalbe for distribution, divided.

Wheatrex Co. Ltd.—Capital £2,000., in 500 7% cumulative preference and 1,500 ordinary shares of £1. each. This company has been formed to acquire and turn to account any invention relating to the improvement or manufacture of bread and any extract or material connected therewith, or relating to any cleansing or washing powder or other compound, in particular to acquire from A. M. Parker, R. W. Papineau, A. E. Oppenheim and V. Murray the benefit of certain secret processes and inventions, and to adopt an agreement with the said vendors and T. Pollard. No initial public issue. The first directors are A. M. Parker, R. W. Papineau, A. E. Oppenheim and V. Murray; qualification, 200 shares; remuneration, £2. each per week (subject to the director devoting his time to the business) and 10% of the net profits, divided. Registered office, 79, Mark-lane, E.C.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Bins.	**Balloons.**	**Cbys.**	**Carboys.**	**Gals. Gls. or Glns.**	**Gallons.**	**Qnty.**	**Quantity (otherwise undeclared).**	**qr.**	**Quarters.**
Bls.	**Bales.**	**Css. or Cs.**	**Cases.**	**Hf. pps.**	**Half pipes.**			**lb.**	**Pounds.**
Brls.	**Barrels.**	**Cks.**	**Casks.**	**Hhds.**	**Hogsheads.**	**Rnlts.**	**Runlets.**		
Bgs.	**Bags.**	**Chts.**	**Chests.**	**Kgs.**	**Kegs.**	**Sks.**	**Sacks.**		
Btls.	**Bottles.**	**Cylds.**	**Cylinders.**	**Ozs.**	**Ounces.**	**Slbs.**	**Slabs.**		
Bdls.	**Bundles.**	**Dms.**	**Drums.**	**Pks.**	**Packages.**	**Tcs.**	**Tierces.**		
Bskts.	**Baskets.**	**Djns.**	**Demijohns.**	**Pns.**	**Puncheons.**	**t. c.**	**Tons, Cwts.**		
Bxs.	**Boxes.**	**Frkns**	**Firkins.**						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Period ending October 31.

Acetic Acid—

Holland,	38 dlns.	H. Lorenz
,,	2ck. 65pks.	W. H. Muller & Co.
,,	25 ,,	,,
,,	3 cs.	Phillipps & Graves.
Norway,	2	J. Spurling
,,	18	F. Fink & Co.
,,	41	Weber, Smith & Hoare
Holland,	71	

Acetone—

Germany,	£170	T. H. Lee
U.S.A.,	920	P. F. Knowlden

Alumina Sulphate—

Holland,	£1,246	Ohlenschlager Bros.

Ammonium Muriate—

Holland,	£79	A. & M. Zimmermann

Amyl Acetate—

Germany,	£57	Reitmayer & Co.

Arsenic—

Portugal,	£590	G. S. N. Co.
Victoria,	480	W. & S. Bowditch

Asbestos—

Belgium,	£86	G. S. N. Co.
Holland,	21	W.H.Muller & Co.
Germany,	34	L. & I. D. Jt. Co.
,,	132	Craven & Co.
,,	5	Argo S.S. Co.
,,	362	Wallach Bros.

Barium Chloride—

Germany,	£40	Luke & Bailey

Barium Oxide—

France,	£49	G. T. Symons & Co.

Barytes—

Germany,	89 cks.	W. Harrison & Co.
,,	22	R. W. Greeff & Co.
Belgium,	95	D. C. Thomas & Son
,,	20	O'Hara & Hoar
Holland,	10 cks.	Van Dam & Co.
,,	15	C. Windschuegl & Co.
Belgium,	35	Taylor Bros.
Holland,	33	Duggan, Noel & Co.
,,	21	O'Hara & Hoar
,,	165	J. Greig
,,	100 bgs.	J. Owen
,,	47 cks.	O. Lechla

Basic Slag—

Belgium,	345 t.	Anglo-Cont. Guano Works

Bleaching Powder—

France,	1 t.	A. Brockwell
E. Indies,	38	Perkins & Homa

Calcium Carbide—

Norway,	4 t. 19 c.	Sun Gas Co.
France,	52	J. Harrison
Sweden	a qty.	

Caoutchouc—

Straits,	2 t. 7 c.	S. Figgi & Co.
Ceylon,	9	L. & I. D. Jt. Co.
France,	8	Weber, Smith & Hoare
,,	1	Shaw, Adams & Co.
,,	14	Clarke & Smith
,,	13 10	S. Figgis & Co.
,,	17	Butler's Wf
Germany,	15	Argo S. S. Co.
Ceylon,	5	J. A. Hadden & Co.
,,	16	L. & I. D. Jt. Co.
Holland,	4 7	,,
Portugal,	1	Humphery

Castor Oil—

E. Indies,	44 cks.	Cayzor, Irvine & Co.

Caustic Potash—

Germany,	45 dms.	J. M. Steel & Co.
Belgium,	23	Luke & Bailey

Chemicals (*otherwise undescribed*)

France	£13	Mory & Co.
Belgium,	30	J. Cockerill Line
,,	14	J. Harrison
,,	15	Leach & Co.
Germany,	410	A. & M. Zimmermann
,,	10	T. H. Lee
,,	6	Argo S.S. Co.
,,	7	L. & I. D. Jt. Co.
Holland,	7	,,
,,	212	A. & M. Zimmermann
,,	40	W. Smith
,,	20	Typke & King
France,	5	Mory & Co.
Germany,	8 cks.	1 cs. L. & I. D. Jt. Co. 3 dms.
U.S.A.,	5 brls.	Lunham & Moore
Holland,	4 pks.	T. H. Lee
,,	6	S. E. & C. Rly.
,,	2 cks.	A. & M. Zimmermann
Belgium,	20 pks.	J. Cockerill Line
Germany,	3 cs.	Carter, Paterson & Co.
,,	3	Craven & Co.
,,	3 10 pks.	Argo S.S. Co.
,,	1 ck.	Silicate Paint Co.
Norway,	£15	W. Smith
Belgium,	15	J. Cockerill Line
Germany,	16	Craven & Co.
U.S.A.,	2,400	R. W. Greeff & Co.

Coal Products—

Aniline

Germany,	8cks. 5 cs.	L. & I D. Jt. Co.
Belgium,	26 pks.	J. Cockerill Line

Colours (*otherwise undescribed*)—

Germany,	8 cks.	T. H. Lee
,,	1 cs.	,,
,,	20 dms.	British Anti-Fg. C. & P. Co.
,,	239	Phillipps & Graves
France,	6 pks.	H. Johnson, Sons & Co.
,,	20 brls.	J. Watt & Son
Germany,	14 kgs.	Prop. Hay's Wf.
,,	20 dms.	Craven & Co.
,,	7 brls.	,,
Holland,	1 cs.	T. H. Lee
,,	16 cks.	,,
,,	16	Taylor Bros.
,,	4	C. Atkins
,,	6 cs.	& Nisbet
Belgium,	67 dms.	J. H. Ellisdon
,,	36 pks.	J. Cockerill Line

Cream of Tartar—

France,	15 cks.	Luke & Bailey
Holland,	3 t. 8 c.	S. White

Dextrine—

Germany,	15 t.	M. Dk. Co
Holland,	3 10 c.	J. Barber & Co.

Dyestuffs—

Bark Extract

France,	100 cks.	S. Barrow & Co.

Cutch

Straits,	150 bxs.	Borneo Co.

Gambier

Straits,	168 bgs.	L. & I. D. Jt. Co.
,,	768 brls.	Dalton & Young
,,	260	Leach & Co.

Indigo

E. Indies,	9 chts.	L. & I. D. Jt. Co.
,,	8	Arbuthnot, Latham & Co.
,,	5	Hands & Angel

Myrabolans

E. Indies,	2,763 bgs.	France, Fenwick & Co.
,,	149	G. R. Hands & Angel
,,	1,996 pkts.	Wrightson & Son

Saffron

Spain,	3 cs.	Leach & Co.
,,	2	H. Rubeck

Tannin Extract

Belgium,	10 cks.	Leach & Co.

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Earth Colours—
Italy, 7 brls. Middleton's Wf.
Belgium, 3 cks. J. Harrison
,, 2 W.H.Muller &Co.
,, 6 Van Dam & Co.
U.S.A., 3 cks. Sanderson & Sons
Italy, 2 brls. Amer. Express Co.
Holland, 1 ck. 6 pks. W. H. Muller & Co.
U.S.A., 3 cs. L. & I. D. Jt. Co.

Farina—
Germany, 21 t. Burgoyne & Co.
Germany, 3 M. Dk. Co.
Holland, 7 Van Dam & Co.
,, 10 J. Barber & Co.
,, 2 10 c. Johnson & Co.

Formaldehyde—
Holland, £40 R. W. Greeff & Co.

Glue—
Holland, £113 Hernu, Peron & Co.
,, 26 Van Dam & Co.
France, 112 J. Harrison
N. Russia, 235 J. Greig
A.-Hung., 860 P. Leiner & Sons
Germany, 85 Prop. Hay's Wf.
France, 195 Bennett's S.S. Co.
Holland, 20 Phillipps & Graves
France, 35 Murray & Co.
,, 20 Atkins & Nisbet
Germany, 22 Prop. Hay's Wf.
,, 17 L. & I. D. Jt. Co.
N. Russia, 220 Ihlee & Sankey
France, 40 L. & I. D. Jt. Co.
Belgium, 120 ,,
,, 270 W. Gross & Co.
,, 688 T. M. Duche & Sons

Glue Stock—
Belgium, 14 t. 1 c. Wallach
Henmann & Co.
Germany, 2 16 Prop. Hay's Wf.
N. Russia, 17 10 Elkan & Co.
Queensland, 2 3 Fellows. Morton & Co.
Victoria, 3 Lampson & Co.
N.S.W., 5 12 Anning & Cobb

Glycerine—
Victoria, £652 H. Hill & Son
S. Aust., 410 L. & I. D. Jt. Co.
Germany, 45 Prop. Hay's Wf.

Lead Acetate—
Holland, £90 T. H. Lee

Linseed Oil—
Holland, 57 brls. Robinson
Roberts & Co.
,, 5 W. H. Muller & Co.

Lithopone—
Holland, 46 cks. J. F. Lauderdale
,, 4 F. T. Nye
,, 40 J. L. Lyon & Co.
,, 40 Van Dam & Co.
,, 4 W. H. Muller & Co.

Magnesite—
Holland, £49 Havelock Line

Mineral White—
A.-Hung., £45 Union Ltge. Co.

Ochre—
France, 9 cks. A. H. Banly
,, 29 Ostermann & Co.
,, 37 Mercantile Ltge. Co.

Olive Oil—
France, 140 g. B. & F. Wf. Co.
Italy, 40 Petty Wood & Co.
,, 1 t. 48 G. Parmigiani & Sons
,, 2 63 E. Lloyd & Co.
,, 3 126 F. Boehm
,, 114 Bullard, King & Co.
,, 12 Laming & Co.
France, 3 F. Boehm
Spain, 126 A. Owen

Paraffin Scale—
U.S.A., 86 t. 1 c. Anlgo-American Oil Co.

Plumbago—
Ceylon, 49 brls. G. & H Green.
,, 403 Thredder, Son & Co.
Holland, 20 cks. B. Gallaway
Germany, 33 ,,

Potassium Carbonate—
Belgium, 4 cks. A. H. Gilbert & Co.
Germany, 10 J. M. Steel & Co.

Potassium Chlorate—
Belgium, 18 bgs. G. Boor & Co.
Sweden, 4 cks. ,,
,, 10 cs. ,,
France, 20 J. Harrison

Potassium Iodide—
Japan, £80 L. & I. D. Jt. Co.

Potassium Metasulphate—
Holland, 20 kgs. A. & M. Zimmermnan

Potassium Sulphate—
Germany, 500 bgs. F. W. Berk & Co.

Pyrogallic Acid—
Holland, 4 cs. W. H. Muller & Co.

Red Lead—
Germany, 49 cks J. D. Budd
France, 20 brls J Watt & Son
Holland, 16 cks. Pinchin Johnson & Co.
,, 119 F. T. Nye
,, 4 W. H. Muller & Co.

Rosin—
Spain, 56 brls. Prod. Brokers Co.
Holland, 12 cs. Van Dam & Co.

Saltpetre—
Germany, 39 t. 6 c. P. Hecker & Co.

Soap—
Holland, £17 T. H. Lee
France, 9 Mory & Co.
U.S.A., 492 Lunham & Moore
Holland, 48 T. H. Lee
,, 93 W. H. Muller & Co.
N.S.W., 75 Lucas & Spencer's Wf.
U.S.A., 110 Armour & Co.

Soap Powder—
U.S.A., £25 Gospo, Ld.
Holland, 18 W. H. Muller & Co.

Soda—
Germany, 9 c. A. & M. Zimmermann
Germany, 5 H. Lorenz
,, 8 T. H. Lee
,, 6 F. W. McKenzie
,, 19 Argo S.S. Co.
Holland, 12 W. H. Muller & Co.

Soda Crystals—
Holland, 10 t. F. Walker & Co.

Sodium Acetate—
France, 10 t. J. Harrison

Starch—
Holland, 14 t. J. Barber & Co.
Aust.-Hung., 10 G. W. Sheldon & Co.
France, 5 A. C. Hitchcock
,, 43 15 c. W. Grosc & Co.
Holland, 3 Van Dam & Co.
,, 3 Gordon, Watts & Co.
,, 27 8 W. H. Muller & Co.
France, 6 15 A. C. Hitchcock
,, 8 L. & I. D. Jt. Co.
Belgium, 9 5 E. T. Pink
,, 1 5 Leach & Co.
,, 9 Fellows, Morton & Co.
,, 5 Starck & Co.
,, 3 10 Sheldon & Co.
,, 6 10 J. Harrison

Stearine—
France, 13 bgs. Mordaunt Bros.
,, 150 Boor & Co.
,, 100 Bell & Co.
,, 210 Hill & Sons
Belgium, 63 G. Jennings
U.S.A., 2 cks. Armour & Co.

Tallow—
Victoria, 55 cks. Hill & Sons
,, 142 pks. A. J. Humphery
N.S.W., 412 cks. Phillipps & Graves
Queensland, 25 J. Greig
,, 125 Goad, Rigg & Co.
,, 76 Concordia
N.S.W., 232 Cook & Co.
,, 123 Colchester & Woolner
,, 853 Phillipps & Graves
,, 264 Anning & Cobb

Tartaric Acid—
Holland, 14 cks. F. C. Devon & Co.
,, 10 B. & F. Wf. Co.
,, 9 Van Dam & Co.

Ultramarine—
Germany, 3 cs. Argo S.S. Co.
Holland, 1 W. H. Muller & Co.
Belgium, 4 cks. Taylor Bros.
,, 1 W. H. Muller & Co.

Wax—
France, 25 cs. W. M. Smith & Sons
N.S.W., 10 bgs. Prop. Hay's Wf.
Germany, 100 T. H. Lee
,, 47 pks. ,,
B. E. Africa, 6 cs. Major & Field
Holland, 15 Barber & Co.
France, 1 pk. Cook & Co.
,, 18 W. H. Muller & Co.

White Lead—
Germany, 53 cks. Randall Bros.
Belgium, 53 J. L. Lyon & Co.
Holland, 20 Van Dam & Co.
,, 24 Perkins & Homer

Zinc Oxide—
Germany, 75 cks. Spies Bros.
,, 120 Burrell & Co.
Holland, 1,381 brls. M. Ashby
,, 200 cks. Litchfield & Soundy
,, 30 Weber, Smith & Hoare

Zinc White—
Holland, 26 cks. W. H. Muller & Co.
,, 1

LIVERPOOL.

Week ending November 1.

Acetic Acid—
Antwerp, 31 cbys.

Alcohol—
Hamburg, 1 cs.

Alkali—
Hamburg, 16 cs.

Antimony Ore—
Hamburg, 134 bgs. Browne, Gevoke & Co.

Arsenic—
Melbourne, 40 cks.

Barium Sulphate—
Antwerp, { 71 cks. 200 bgs.

Barytes—
Antwerp, 21 cks.
Rotterdam, 12 pks.

Beeswax—
Hamburg, 7 cs.

Bones—
B. Ayres, 3,906 bgs.

Bone Ash—
B. Ayres, a qty.

Boracic Acid—
Leghorn, 18 cks.

Carbonic Acid—
Halifax, N.S., 1 pk. M. Colman

Castor Oil—
Marseilles, 15 cs.

Chemicals (*otherwise undescribed*)
Rotterdam, 7 pks.

Colours—
Rotterdam, 47 pks.

Copper Ore—
River Plate 394 bgs.
Eten, 19 t. 559 sks.
Sydney, 770 bgs.
Hamburg, 4 cks.
,, 428 bgs.
,, 25 Browne, Geveke & Co.

Cream of Tartar—
Bordeaux, 92 cks.
Hamburg, 2

Dyestuffs—
Bark Extract
Newport News, 50 brls.
Hemlock Extract
Halifax,N.S.165 cks. Boutcher, Mortimore & Co.
Newport News, 50 brls.
Oak Extract
Fiume, 353 brls.
Sumac
Palermo, 2,092 bgs. Natl. Bk., Philadelphia
Tannin Extract
Nantes, 50 cks. R. J. Francis & Co.
Bordeaux, 370

Farina—
Rotterdam, 10 bgs.
Fiume, 590

Ferro Chrome—
Havre, 20 cs.

Glucose—
New York, 60 brls.

Glue—
Philadelphia, 20 brls.
Antwerp, 5 bgs.

Glue Stock—
Marseilles, 92 bls.

Glycerine—
Amsterdam, 58 dms.

Lead Peroxide—
Naples, 22 brls.

Lead White—
Rotterdam, 33 cks.

Lithopone—
Antwerp, 34 cks.

Magnesite—
Amsterdam, 107 bgs.

Magnesium Carbonate—
Amsterdam, 5 cs.

Mineral White—
Bordeaux, 500 bgs.

Ochre—
Rouen, 38 pks. Co-op. W'sale Society
Marseilles, 10 brls.

Olive Oil—
Bordeaux, 308 cs.
Marseilles, 25

Potash—
Hamburg, 25 dms.

Potash Lye—
Hamburg, 50 dms.

Pyrites—
Huelva, 4,016 t.

Pyrites (Iron)—
Huelva, 3,151 t. Matthiessen & Co.

Red Lead—
Rotterdam, 60 cks.

Rosin—
Bordeaux, 1,297 cks.
Savannah, 900 brls.
Marseilles, 12
Hamburg, 137 bgs.

Rubber—
Ambrizette, 53 pks. Hatton & Cookson
Cameroons, 2 cks. J. Holt & Co.
Calabar, 5 African Assoc., Ld.
,, 2 A. Miller & Co.
,, 22 J. Edwards & Co.
,, 3 T. Welsh & Co.
,, 3 Matthiessen& Co.
Sekondi, 7 pks. Millers, Ld.
Bordeaux, 49
Hamburg, 20
New York, 12 brls.
Antwerp, 42 bgs.

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Rubber—
Winnebah, 2 pks. African Assoc.
Half Assini, 1 Millers, Ld.
Attuaboe, 13 ,,
,, 3
Half Jack, 1 ck. Rider, Son & Andrew
Sassandra, 7 W. D. Woodin & Co.
,, 4 R. & W. King
,, 3 Cie Française & Co.
,, 4 Rider, Son & Andrew
Sinoe, 5 Lib. Rub. Corp.
Tabou, 4 W. D. Woodin & Co.
Bereby, 3 ,,
Axim, 4 Cie Franç. & Co.
Hamburg, 16 brls. Browne, Geveke & Co.

Saltpetre—
Hamburg, 31 pks.

Salt (Waste)—
Hamburg, 8,499 bgs.

Soap—
Havre, 6 cs. Cunard S.S. Co.
Marseilles, 597
Boston, 17 Evans, Sons Lescher & W., Ld.

Soapstone—
Genoa, 200 bgs.

Sodium Nitrate—
Caleta Buena, 27,189 bgs.

Sodium Phosphate—
Rouen, 1 ck.

Starch—
Marseilles, 50 bgs,
Boston, 65 brls.
New York, 26
Amsterdam, 120 bxs.
Antwerp, 80 cs. J. T. Fletcher & Co.
,, 690

Stearine—
St. Johns, N'fld., 27 brls. Job Bros.
Antwerp, 38 bgs. J.T. Fletcher & Co.

Sulphur—
Catania, 300 bgs.

Tallow—
B. Ayres, 575 pps. 50 trcs.
,, 88 hf-pps,
Sydney, 174 cks.
Rouen, 10
Philadelphia, 155

Turpentine—
New Orleans, 111 brls.

Ultramarine—
Rotterdam, 2 cks.
Hamburg, 2 cs.

Wax—
Hamburg, 20 bgs.
New York, 100 brls.
Rotterdam, 5 pks.
Philadelphia, 100

Zinc Oxide—
New York, 700 brls.

Zinc White—
Marseilles, 12 brls.
Rotterdam, 45 cks.

MANCHESTER.

Week ending November 1.

Acetic Acid—
Antwerp, 4 cks. J. T. Fletcher & Co.

Ammonia Salt—
Antwerp, 10 brls.

Antimony Salt—
Rouen, 8 dms.
Rotterdam, 22 pks.

Asbestos—
Riga, 10 bgs.

Barytes—
Rotterdam, 300 bgs.

Carbide—
Christiania, 213 dms.
Sarpsborg, 180

Caustic Potash—
Treport, 8 dms.

Chalk—
Rouen, 6 cs.

Chemicals (*otherwise undescribed*)
Antwerp, 12 brls.
Rotterdam, 46 cks. 12 cs.

Chloride Tin—
Rotterdam, 20 cks.

Coal Products—
Alizarine
Rotterdam, 29 cks
Creosote Salt
Rotterdam, 10 cks.

Cobalt Carbonate—
Rouen, 2 cks.

Cobalt Sulphate—
Rouen, 1 ck.

Colours—
Rouen, 58 cks.
Rotterdam, 15 540 pks.
Treport, 6

Cottonseed Oil—
Rotterdam, 10 brls.

Dextrine—
Stettin, 100 bgs.

Dyestuffs—
Indigo Paste
Rotterdam, 50 cks.
Tannin
Hamburg, 5 cks.

Earth Colour—
Rotterdam, 10 cks.

Farina—
Copenhagen, 185 bgs.
Stettin, 8,048
R'terdam, 2,416

Ferro Silicon—
Christiania, 63 cks.

Glue—
Stettin, 40 bgs.
Treport, 10 pks,
Antwerp, 10
Rotterdam, 20 10 cs.

Lead Acetate—
Stettin, 79 cks.

Litharge—
Rotterdam, 104 cks.

Magnesite—
Rotterdam, 100 bgs.

Manganese Ore—
Bombay, 5,780 t.

Mineral White—
Rotterdam, 25 cs.

Potash—
Treport, 25 cks.

Potassium Carbonate—
Treport, 18 cks.

Potassium Prussiate—
Antwerp, 32 cks.

Pyrites—
Pomaron, 1,387 t.

Rubber—
Treport, 8 cks.

Soap—
Rotterdam, 2 cs.

Soda—
Antwerp, 6 brls.

Soda Crystals—
Antwerp, 20 cks.

Starch—
Rotterdam, 30 cs.
Antwerp, 638

Stearine—
Antwerp, 10 brls.

Tin Oxide—
Rotterdam, 4 cks.

Turpentine—
Savannah, 500 brls.

Ultramarine—
Rotterdam, 4 cks. 15 cs. 5 pks.

Wax—
Rotterdam, 5 bgs.

HULL.

Week ending November 2.

Acetic Acid—
Hamburg, 7 cks.

Asbestos—
Hamburg, 20 bgs.
St. Petersb'g, 250 Wilsons & N.E. R. S. Co.
Rotterdam, 75

Barytes—
Antwerp, 38 cks. 20 pks. 300 bgs.
Rotterdam, 100 Hull & N. S.S. Co.

Chemicals (*otherwise undescribed*)
New York, 950 bgs. Wilsons & N.E. R. S. Co.
Rotterdam, 12 cks. Hull & N. S.S.Co
Bremen, 7 Veltmann & Co.
Stettin, 4 brls. Wilsons Sons & Co., Ld.

Coal Products—
Alizarine
Rotterdam, 25 cks. Hull & N.
,, 148 pks. S.S. Co.
Aniline
Rotterdam, 640 pks. Hull & N.
,, 50 bgs. S.S. Co.
Creosote Salt
Rotterdam, 4 cks. Hull & N. S.S. Co.
Tar
Amsterdam, 10 brls. Hull & N. S.S. Co.

Colours—
New York, 100 cs. Wilsons & N.E. R. S. Co.
Bremen, 11 Good & Sons
Antwerp, 100 bgs.
Hamburg, 50 Wilsons & N.E. R. S. Co.
,, 50 cs.
Rotterdam, 88 cks. Hull & N. S.S. Co.
Antwerp, 18 pks. ,,

Cream of Tatar—
Rotterdam, 10 kgs. Hull & N. S.S. Co.
Marseilles, 4 cks.

Dextrine—
Stettin, 54 bgs.

Dyestuffs—
Indigo
Rotterdam, 4 brls. Hull & N. S.S Co.
Sumac
Palermo, 1,500 bgs.
Sumac Extract
Antwerp, 20 cks. Hull & N. S.S. Co.

Farina—
Harlingen, 50 bgs.
Hamburg, 300 Wilsons & N.E. R. S. Co.
Stettin, 40 Wilsons, Sons & Co., Ld.

Ferro Chrome—
Hamburg, 5 cs. Wilsons & N.E. R. S. Co.

Glucose—
Rotterdam, 100 bgs. Hull & N. S.S. Co.
Stettin, 10 cks. Wilson, Sons & Co., Ld.

Glue Stock—
Antwerp, 10 bgs.

Lead Acetate—
Rotterdam, 6 cks. Hull & N. S.S. Co.

Linseed Oil—
Rotterdam, 113 brls.
Hamburg, 30

Lithopone—
Rotterdam, 100 cks.

Magnesite—
Fiume, 961 bgs. Wilsons,
,, 260 cs. Sons & Co.
Frieste, 573 bgs.

Manganese Muriate—
Hamburg, 12 brls.

Ochre—
New York, 104 brls. Wilsons & N.E. R. S. Co

Olive Oil—
Messina, 6 cks.

Phosphate—
Zeebrugge, 800 t.
Ghent, 100

Plumbago—
Hamburg, 36 cks. Wilsons & N.E. R. S. Co.

Potash—
Bremen, 80 dms. Wilsons Sons & Co. Ltd.

Rosin—
London, 60 cks. W. Moran & Co.
New York, 6 brls.

Saltpetre—
Hamburg, 20 brls. Wilsons & 22 cks. N.E.R.S. Co.

Soap—
Rotterdam, 8 cks. Hull & N. S.S. Co.
Bari, 17 cs. Wilsons Sons & Co., Ld.
Rotterdam, 5 Hull & N. S.S. Co.

Soda—
Ghent, 230 bgs.

Starch—
Ghent, 78 cs. Wilsons & N.E. R. S. Co.
Bremen, 1,040 pks. Veltmann & Co.
Antwerp, 246 cs. Hull & N. S.S. Co.

Sulphur—
Catania, 96 cks. 1,277 bgs. 50 t.

Tartaric Acid—
Bari, 68 brls. Wilson, Sons & Co., Ld.

Tungsten—
Hamburg, 10 cs. A. Sanderson & Co.

Ultramarine—
Bremen, 20 cks. A. Sanderson & Co.

Wax—
New York, 265 brls.

Zinc Oxide—
Rotterdam, 5 cks. Hull & N. S.S. Co.

Zinc White—
Stettin, 10 cks. Wilson, Sons & Co., Ld.

GLASGOW.

Week ending November 7.

Acetic Acid—
Antwerp, 5 cks. 16 cbs.

Ammonium Phosphate—
Antwerp, 14 cks.

Asbestos—
Genoa, 12 cs.

Barium Sulphate—
Antwerp, 1,000 bgs. 110 cks.

Castor Oil—
Antwerp, 134 brls.
Leghorn, 25 cs.

Colours—
Trieste, 23 brls.

Cream of Tartar—
Valencia, 30 brls.
Antwerp, 6 cks.

Dyestuffs—
Quebrache Extract
Buenos Ayres, 400 bgs.

Dyestuffs (*otherwise undescribed*)—
Fiume, 312 brls.

Glue—
Fiume, 500 bgs.
Rouen, 6 cks. 43

Iron Ore—
Almeria, 3,500 t. A. B. Craig
Bilbao, 4,100
Calera, 1,300
Castro, 2,809 H. Ottmann

Linseed Oil—
N. York, 100 cs. 1 brl.

Magnesite—
Trieste, 223 bgs.

Olive Oil—
Leghorn, 29 cs. 85 brls.

Potash—
Montreal, 6 brls.

Potassium Chlorate—
Antwerp, 25 brls.

Plumbago—
Genoa, 100 bgs.

Rosin—
Baltimore, 495 brls.
Antwerp, 60 bgs.

Soap—
Bari, 102 cs.
Genoa, 167
Leghorn, 160

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Soap—
N. York, 1 cs. 1 bx. 150 brls.
Soap Powder—
New York, 1,000 bxs.
Soda Crystals—
Antwerp, 30 bgs.
Sodium Chlorate—
Antwerp, 28 brls.
Starch—
Antwerp, 221 cs. 50 bgs.
Fiume, 10
New York, 1,329
Sodium Phosphate—
Antwerp, 17 cks.
Stearine—
Antwerp, 63 bgs.
Wax—
Baltimore, 853 brls.
New York, 560
White Lead—
New York, 40 cks.
Zinc Oxide—
Antwerp, 24 brls.
New York, 300

TYNE.

Week ending November 2.

Asbestos—
Antwerp, 2 crts. Tyne, Tees S.S. Co.
Barytes—
Rotterdam, 77 cks. Tyne, Tees S.S. Co.
Antwerp, 30 bgs ,,
Cream of Tartar—
Rotterdam, 6 cks. Tyne, Tees S.S. Co.
Glue—
Antwerp, 20 bls. Tyne, Tees S. S. Co.
Iron Ore—
Porman, 1,600 t.
Benisaf, 4,147 Dunford & Elliott
Bi bao, 3,500
Phosphate—
Treport, 290 t
Phosphate of Lime—
Dunkirk, 285 t
Pyrites—
Trondhjem, 68 t
Soap—
Rotterdam, 1 cs. Tyne, Tees S.S. Co.
Starch—
Rotterdam, 60 cs. Tyne, Tees S.S. Co.
Tartaric Acid—
Rotterdam, 20 cks. Tyne, Tees S.S. Co.
Turpentine—
Rotterdam, 7 brls. Tyne, Tees S.S. Co.

GOOLE.

Week ending November 2.

Caoutchouc—
Boulogne, 26 cks. 1 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 68 bgs.
Rotterdam, 24 cks.
Coal Products—
Pitch
Antwerp, 25 cks. 9 cs.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 17 cks. 2 cs.
Boulogne, 169
Hamburg, 83 4 165 pks. 1,000 bgs.
R'terdam, 357 26 46 cs.
Dyestuffs—
Tannin Extract
Hamburg, 42 cks. 20 dms. 20 cs.
Farina—
Delfzyl, 885 bgs.
Hamburg, 100
Glue—
Dunkirk, 23 cks.
Ghent, 40 bxs.
Phosphate—
Boulogne, 415 bgs.
Salt—
Hamburg, 360 t. 675 cks.
Saltpetre—
Rotterdam, 135 bgs.
Starch—
Ghent, 31 cs.
Starch—
Hamburg, 5 cks.
Stearine—
Boulogne, 103 cks. 7 cs.
Wolfram Ore—
Hamburg, 69 cs.

GRIMSBY.

Week ending November 2.

Bog Ore—
Rotterdam, 100 t.
Caoutchouc—
Hamburg, 35 cs.
Antwerp, 9
Rotterdam, 4
Chemicals (*otherwise undescribed*)
Antwerp, 20 cks. 1 dm.
Coal Products—
Indigo
Hamburg, 6 cs.
Colours—
Hamburg, 6 cks. 27 pks.
Antwerp, 91
Rotterdam, 14
Glycerine—
Hamburg, 1 ck.
Salt—
Hamburg, 2 cs.
Soap—
Dieppe, 4 cks.
Starch—
Antwerp, 192 cs.
Wax—
Hamburg, 5 bgs.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Period ending November 6.

Ammonia—
Ostend, 4 cs. £5
Cape Town, 20 29
Rangoon, 4 12
Bombay, 2 6
Durban, 6 12
Calcutta, 3 ck. 46 77
Algoa Bay, 3 dms. 13
Ammonium Carbonate—
Rotterdam, 40 cks. £56
St. Johns, 15 kgs. 24
Hamburg, 13 46
Antwerp, 15 brls. 40
Calcutta, 5 13
Sydney, 5 cs. 9
Ammonium Muriate—
Antwerp, 10 t. 3 c. £233
Ammonium Sulphate—
Kobe, 809 t. 19 c. £7,701
Yokohama, 255 14 3,066
Demerara, 100 1 1,196
Dunkirk, 30 368
Trinidad, 60 745
Antimony Sulphide—
Treport, 34 cks. £475
Arsenic—
Cape Town, 2 cs. £7
Durban, 5 cks. 29
Amsterdam, 5 30
Barium Nitrate—
Bombay, 20 kgs. £20
Binoxide of Barium—
Paris, 20 t. 3 c. £695
Bisulphite of Lime—
E. London, 1 brl. £5
Bleaching Powder—
Hong Kong, 20 jars. £7
Bones—
Boston, 52 t. £260
Bone Ash—
Auckland, 10 c. £13
Mollendo, 16 14
Boracic Acid—
Algoa Bay, 4 c. £5
Borax—
Mollendo, 1 t. 6 c. £38
Calcium Carbide—
Singapore, 1 c. £5
Algoa Bay, 4 cs. 16 30
Caustic Potash—
Bombay, 1 t. £28
Caustic Soda—
Durban, 1 t. 3 c. £25
Wellington, 7 12
Beira, 5 5
Hong Kong, 12 9
P. Swettenham, 2 24
Melbourne, 5 cs. 5
Chemicals (*otherwise undescribed*)
Sydney, 17 cs. £27
Madras, 8 59
Algoa Bay, 6 86
Antwerp, 5 185
Shanghai, 1 ck. 3 33
Auckland, 30 114
Hamburg, 1 9 223
Bahrein, 2 6
Calais, 2 12
Gibraltar, 2 8
Bremen, 24 168
Ghent, 1 10
Ostend, 3 5
Calcutta, 15 246
Buenaventura, 14 94
Brussels, 10 9 pks. 42
Cologne, 108 169
Delagoa Bay, 40 76
Stockholm, 32 134
Rosario, 19 7 kg. 115
Rotterdam, 90 153
Copenhagen, 5 8
Bombay, 20 bgs. 71 84
Citric Acid—
Amsterdam, 6 c. £41
Hamburg, 2 t. 17 401
Cape Town, 2 19
Karachi, 1 cs. 37
Bombay, 1 2 28
Sydney, 1 2 160
Colon, 1 12
Rotterdam, 5 kgs. 10 cks. 114
11 c.
Coal Products (*otherwise undes.*)—
Antwerp, 7 cks. £51
Rotterdam, 8 88
Treport, 18 t. 7 c. 55
Coal Products—
Alizarine
Bombay, 405 cks. £1,508
Dusseldorf, 20 698
Tuticon, 22 264
Rouen, 3 91
Aniline Dye
Boulogne, 10 pks. £55
Sydney, 1 cs. 10
Aniline Oil
New York, 20 dms. £480
Coal Products—
Benzol
Stockholm, 2 dms. £25
Bitumen
B. Ayres, 69 cks. £79
Carbolic Acid
Algoa Bay, 25 dms. £6
Carbolic Acid (Crystals)
Algoa Bay, 2 cs. £8
Creosote
Stockholm, 100 cks. £69
Mirbane
Odessa, 2 cs. £5
Naphthaline
P. Elizabeth, 15 cks. £25
E. London, 5 9
Naphtha
Melbourne, 50 dms. £26
Pitch
Rangoon, 30 kgs. £9
Mariopol, 2,993 t. 4,092
Hamburg, 6 brls. 13
Durban, 20 kgs. 9
Antwerp, 750 937
Gravelines, 165 206
P. Mexico, 2 cks. 6
Nantes, 870 t. 1,153
Pyridine
Hamburg, £121
Tar
Rangoon, 50 dms. £20
Townsville, 100 21
Hong Kong, 20 11
Broome, 20 7
R'hampton, 50 11
Tar Oil
Hamburg, 250 cks. £124
Gothenburg, 250 180
Copper Sulphate—
Paris, 35 t. £815
Calcutta, 5 114
Cottonseed Oil—
Brisbane, 1 t. 15 c.
Marseilles, 110 1
Cream of Tartar—
P. Elizabeth, 8 c. £33
Melbourne, 1 t. 5 100
Cyanide (*otherwise undescribed*)—
Melbourne, 10 t. £752
Townsville, 2 2 c. 183
Disinfectants—
Port Swettenham, 126 dms. 6 cks. £66
Wellington, 50 cs. 100
Cape Town, 125 30 186
Disinfectants—
Algoa Bay, 4 cs. £17
Bombay, 420 dms. 4 10
E. London, 1 5
Shanghai, 11 cks. 79
Durban, 4 70 85
Calcutta, 19 5 172
Jamaica, 6 10 16
Rangoon, 10 92
Demerara, 5 15
Cochin, 300 289
Colombo, 30 28
Delagoa Bay, 8 250 163
Sydney, 2 6
Madras, 31 pks. 75 21
Dunedin, 1 tank. 45
Singapore, 73 44
Fertiliser—
Rouen, 20 t. £50
Singapore, 2 10 c. 8
Glycerine—
Algoa Bay, 15 c. £46
Cape Town, 3 9
Christchurch, 2 17
Shanghai, 10 30
Boulogne, 2 15
Paris, 4 cs. 20
Guano (Fish)—
Yokohama, 100 t. £725
Kobe, 150 1,200
Hydrochloric Acid—
Durban, 1 cs. 11 c. £14
Kainit—
St. Lucia, 25 t. £48
Lactic Acid—
B. Ayres, 5 cks. £35
Linseed Oil—
Auckland, 1 t. 7 c.
Brisbane, 14
Calcutta, 3 8
Cape Town, 1 15
Cuba, 1 13
Durban, 1 3
E. London, 2 4
Kobe, 3 6
Limon, 19
Manila, 2 3
Melbourne, 1
Nagasaki, 1
P. Elizabeth, 47 8
Rangoon, 4
Rosario, 3
Rotterdam, 1 6
Sydney, 21 3
Trieste, 19

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Manure—
Kobe, 105 t. 2 c. £915
Yokohama, 30 240
Patras, 152 14 795
Bordeaux, 14 98
Durban, 44 13 167
Barbadoes, 51 153
Demerara, 60 540
Martinique, 500 1,500
Jamaica, 2 14
Acajutla, 5 56

Nickel Salts—
Melbourne, 6 c. £13

Oxalic Acid—
Syria, 10 kgs. £20
B. Ayres, 2 cks. 20
Auckland, 3 36

Paraffin Wax—
Catania, 1 t. 10 c.
Naples, £170

Phosphate of Lime—
Sydney, 5 cs. £7

Phosphoric Acid—
Trinidad, 3 cks. £11

Phosphorus (Amorphous)—
B. Ayres, 3 cs. £48

Plumbago—
Nagasaki, 2 t. 10 c.

Potash—
Christchurch, 5 c. £33
Montreal, 1 t. 141
New York, 18 5

Potassium Bromide—
Bombay, 2 cs. £8

Potassium Chlorate—
Bombay, 2 t. 10 c. £82

Potassium Cyanide—
Mollendo, 11 c. £35
Brisbane, a qnty. 40

Salammoniac—
Colombo, 4 c. £7
Sydney, 5 11

Saltcake—
Quebec, 170 t. £380
Oldenburg, 146 730

Saltpetre—
Wellington, 1 t. £25
Santos, 6 9c. 30brls. 202
Brisbane, 3 73

Saltpetre (Crystals)—
Cape Town, 5 c. £17

Sheep Dip—
Wellington, 14 t. 19 c. £500
Dunedin, 14 16
Oamaru, 1 18 62
Invercargill, 5 17 175
Nelson, 2 6 50
B. Ayres, 12 4 113
Lyttelton, 100 dms. 100cs. 164

Soap—
Auckland, 2 c.
Bermuda, 8
Boulogne, 5
Bremen, 7
Brussels, 7
Calcutta, 2 t. 3
Channel Is., 6
Colombo, 7
Cuba, 3
Durban, 1
E. London, 1 3
Flushing, 1
Halifax, 13
Labuan, 2
Lisbon, 2
Madras, 7 13
Montserrat, 1
Odessa, 2
Penang, 2
P. Elizabeth, 2
P. Said, 3
Rotterdam, 1 6
Smyrna, 11
Trinidad, 9 6
Vancouver, 14

Soda Crystals—
P.Swettenham, 1 t. 5 c. £5
Bermuda, 1 13 6

Sodium Cyanide—
Auckland, 10 t. 7 c. £892
S. Francisco, 5 423

Sodium Sulphate—
Christchurch, 5 c. £6

Sodium Sulphite—
Montreal, 9 c. £64

Starch—
Channel Is., 4 c.

Sulphite of Lime—
Montreal, 1 cs. £8

Sulphur—
E. London, 30 kgs. £8
Algoa Bay, 14 t. 148

Sulphuric Acid—
Mollendo, 1 t. 19 c. £30
Zanzibar, 7 10
B. Ayres, 2 37

Superphosphates—
Durban, 4 t. £12
Jersey, 62 209

Tallow—
Brussels, 25 t. 9 c.
Hamburg, 49 6
Harlingen, 5 18
Riga, 5 2
S. Petersburg, 49 17

Tartaric Acid—
Cape Town, 1 c. £5
Auckland, 4 20
Lisbon, 5 25
Pekin, 1 6
Jamaica, 2 12
Toronto, 3 17
Sydney, 3 16
Singapore, 10 54

White Lead—
Auckland, £245
Brisbane, 27
Calcutta, 175
Cape Town, 93
Demerara, 14
Melbourne, 472
P. Elizabeth, 282

Zinc Sulphide—
New York, 4 cks. £91

LIVERPOOL.

Period ending November 5.

Acetic Acid—
Para, 1 cs. £2

Acid (*otherwise undescribed*)**—**
Burutu, 1 cs. £1
La Guayra, 1 c. 3

Alum—
Trieste, 9 t. 18 c. £51
Trinidad, 15 4
Cape Town, 4 1
Hamburg, 1 4 6
Calcutta, 3 16
Constantinople, 14 4
Chios, 2 1 10

Ammonia—
Rangoon, 1 cs. £1
Para, 1 1 c. 4
Bahia, 1 1
St. John's, 1 2
Port Madryn, 2 3

Ammonium Anhydrate—
Las Palmas, 5 cylndrs. £80
Cadiz, 7 c. 36

Ammonium Carbonate—
Vigo, 1 t. £30
Pernambuco, 12 c. 20
Colon, 1 2
Bahia, 2 4
San Sebastian, 19 34
Bordeaux, 10 16
Gothenburg, 2 4 75
Genoa, 3 98
Rouen, 6 3 199
V. Cruz, 2 48

Ammonium Muriate—
Alexandria, 2 t. £48
New York, 5 12c. 191
Genoa, 2 12 63
P'delphia, 15 13 362
Baltimore, 16 1 385
Auckland, 5 3
Yokohama, 3 72
Cleveland, 16 384

Ammonium Sulphate—
New York, 46 t. 4 c. £552
Baltimore, 45 16 540
N. Orleans, 41 12 582
Barcelona, 20 240
P'delphia, 71 9 877
New York, 49 14 588
Las Palmas, 5 62
Valencia, 407 9 4,882
Las Palmas, 91 3 1,106
Barcelona, 50 1 590
Baltimore, 60 2 751

Ammonium Sulphate—
Lisbon, 50 t. 613
Falklands, 1 cs. 3
Tampico, 6 5 c. 76
Teneriffe, 5 19 72
New York, 72 16 865
Las Palmas, 172 10 1,507
Valencia, 50 624

Antimony Sulphide—
New York, 10 t. £347

Arsenic—
Venice, 10 t. £290
Pernambuco, 10 c. 18
Natal, 1 19 58

Basic Slag—
Corunna, 120 t. £180
Tarragona, 20 30
Bilbao, 9 16 c. 15
Santander, 15 23

Bleaching Powder—
Bombay, 5 cs.
Boston, 563 cks.
Portland, 252
New York, 114

Bone Ash—
Spezzia, 3 t. 5 c; £52
Sekondi, 1 1

Borax—
Bahia, 2 c. £3
Galatz, 1 t. 11 22
Sekondi, 1 1
Santiago, 7 5
Gibraltar, 10 8
Salonica, 4 4
Bombay, 2 10 40

Calcium—
Peletas, 1 cs. £1

Calcium Carbonate—
Vera Cruz, 18 c. £2

Calcium Chloride—
Odessa, 24 t. 19 c. £96
Libau, 2 15 7
Algoa Bay, 3 3 7
Rangoon, 15 17 39
Cadiz, 15 4

Carbonic Acid Gas—
Lisbon, 3 c. £4

Caustic Potash—
Lisbon, 2 t. 5 c. £59

Caustic Soda—
Alexandria, 55 dms.
Amsterdam, 35
Ancona, 35
Barcelona, 24 cks. 575
Bari, 45
Batavia, 181
Benkoelen, 100
Boston, 50
Braila, 510
Brazil, 3
B. Ayres, 115
E. London, 37 cs. 12
Fiume, 40
Galatz, 70
Genoa, 30
Kobe, 323
Lisbon, 10
Manila, 96
Mazatlan, 60
Messina, 5
Mexico, 52
M. Video, 25
New York, 50
Oporto, 40
Osaka, 57
Padang, 100
Palermo, 15
Puerto Colombo, 50
Rio de Jan., 15
Seychelles, 30
Seville, 800
Sfax, 3
Smyrna, 27
Sourabaya, 4
Sousse, 10
Tampico, 52
Trinidad, 40
Tunis, 13
Valencia, 60
Valparaiso, 50
Venice, 89
Vera Cruz, 105
Auckland, 30
Bahia, 3
B. Ayres, 248
Cadiz, 12
Canada, 50
Cindad Bolivar, 20
Dunedin, 30
Havana, 80
Hiogo, 435
Melbourne, 81

Caustic Soda—
Montreal, 138 dms.
Penang, 10
Pernambuco, 86
P. Alegre, 100 bxs.
Tampico, 175

Chemicals (*otherwise undescribed*)
Rangoon, 1 ck. £2
Hamburg, 11 108
B. Ayres, 1,428 bgs. 357
Montreal, 39 3,354 slabs.
30 425
Bombay, 2 3
Rangoon, 6 pks. 43
Montreal, 552 162
Varna, 35 133
Galatz, 10 19
Winnipeg, 1 10

China Clay—
Bombay, 1,252 cks.
B. Ayres, 8
Boston, 250
Delagoa Bay, 20
P. Elizabeth, 914 t.

Citric Acid—
Colon, 1 c. £10
Havana, 1 9

Coal Products—
Carbolic Acid
Alexandria, 2 cs. £11
Carbolic Acid (Crystals)
Melbourne, 7 c. £27
Sierra Leone, 9 13
Carbolic Acid (Solid)
Venice, 15 c. £36
Marseilles, 6 16
Rangoon, 3 13
Yokohama, 2 5
Kobe, 3 t. 6 158
Sydney, 10 34

Copperas—
Teneriffe, 4 t. £11
Singapore, 5 12 c. 12
Vera Cruz, 2 2

Copper Sulphate—
Cape Town, 11 c. £14
Alexandretta, 11 12
Sourabaya, 1 t. 8 41
Probolingo, 11 18
Lisbon, 10 216
Bombay, 2 10 54
Tampico, 1 4 33
Varna, 1 22
Christiania, 11 13
Alexandria, 1 22
Hamburg, 1 9 31
Rotterdam, 17 6 377
Calcutta, 1 5 30
Marseilles, 7 10 170
Rangoon, 1 5 32
Montreal, 11 5 236
P'delphia, 20 2 437
Vera Cruz, 45 6 1,012
Galatz, 1 22
Volo, 2 44
Calcutta, 5 112
Bombay, 10 223
Karachi, 2 5 53
Antwerp, 7 10 164
Winnipeg, 5 14 146
Copenhagen, 1 11 34
Batavia, 5 18 131
Madras, 10 11
Bombay, 210 64
Rangoon, 5 6
Salonica, 1 10 34
Syra, 1 25
Rouen, 20 460
Bordeaux, 4 19 125
Nantes, 16 360
Bombay, 2 10 58
Antwerp, 8 12 176
Libau, 1 24
Stettin, 4 91
Konigsberg, 1 11 38
Danzic, 15 21
Riga, 3 10 78
Messina, 10 1 235
Amsterdam, 2 2 49
S. Sebastian, 1 23

Cottonseed Oil—
Tangier, 25 brls.
Algiers, 140
Rufisque, 10

Cream of Tartar—
St. John's, N'fld., 1 c. £1
Rangoon, 1 cs. 3

Disinfectants (*otherwise undes.*)**—**
Sydney, 5 brls. £23
B. Ayres, 8 cs. 17
Para, 1 1
Cape Town, 741 pks. 195
Rangoon, 1 ck. 2

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Disinfectants (*otherwise undes.*)—
Burutu, 2 crts. £3
Appam, 1 cs. 2
Accra, 4 12
Berracoe, 1 2
Mumford, 1 2
Winnebah, 1 3
Lome, 1 3
Karachi, 4 c. 15
S. John's, N'fld., 11 29
Sydney, 5 14

Dried Blood—
Teneriffe, 10 t. 10 c. £101

Glycerine—
Recife, 1 cs. £1
Kobe, 6 t. 16 c. 294
Bombay, 1 43
Havre, 4 19 262
Natal, 5 16
Valparaiso, 2 8
P. Madryn, 1 cs. 1
Algoa Bay, 5 14
Karachi, 3 c. 10
Montreal, 30 13 1,454
Perth, 2 19 123
Shanghai, 9 4 520
Cape Town, 58 15 2,645
Algoa Bay, 2 6
Granby, 3 8 171
Quebec, 10 24

Hydrochloric Acid—
Para, 3 c £2
Sierra Leone, 1 1
Bahia, 1 cs. 1

Kainit—
Sydney, 1 t £21

Lead Acetate—
Malaga, 4 c £7

Linseed Oil—
Alexandria, 290 brls.
Bahia, 10 10 hds
Bathurst, 12 dms
Cartagena, 22cs. 5
Corinto, 10
Hamburg, 4 cks. 2
Havana, 8 brls.
Iquitos, 10
Las Palmas, 2
Maceio, 6
Para, 8
Smyrna, 5
Talcahuano, 100
Callao, 15
Candia, 4
Colombo, 30
Delagoa Bay, 10
Galatz, 2 51
Havana, 12
Karachi, 120
Madras, 2 130
Manaos, 5
M. Video, 12
Patras, 4
Pernambuco, 7
St. Thomas, 1
Sulina, 12

Magnesite (Calcined)—
Delagoa Bay, 4 t. 5 c. £81

Magnesium Carbonate—
Colon, 561bs. £3
Bilbao, 1 cs. 1
Havre, 3 t. 54

Magnesium Chloride—
Toulouse, 2 c. £2
Akyab, 2 1
Rangoon, 1 t. 14 8

Manure—
La Pallice, 35 t. 1 c. £220
P'delphia, 100 500
Colombo, 25 181

Nitric Acid—
A'fagasta, 2 c. £2
Bahia, 1 cs. 2

Oxalic Acid—
Newcastle, 2 t. 1 c. £70
Toronto, 3 111
New York, 4 14 182

Phosphorus—
Genoa, 6 t. £935

Potash—
Bahia Blanca, 10 c. £10

Potassium Bicarbonate—
Montreal, 2 c. £3

Potassium Bichromate—
Alexandria, 2 t. 10 c. £78
Cairo, 5 154
Bourgas, 10 15
Salonica, 16 26
Bombay, 1 10 47
Oporto, 1 2 03

Potassium Chlorate—
Kobe, 25 t. £750
Santos, 25 6 c. 759
Varna, 5 9
Bourgas, 9 17 296
Konigsberg, 3 4 95
Stettin, 10 282
La Guayra, 2 4
Tampico, 18 15 563

Potassium Cyanide—
Sekondi, 1 t. £84

Potassium Stannate—
Bombay, 1 t. 12 c. £112

Salammoniac—
Odessa, 10 t. £322
Santos, 1 c. 2
Rangoon, 3 15 157
Para, 1 2
Bahia, 3 7
Karachi, 2 90
Bilbao, 1 38
Alexandria, 10 19
Varna, 1 38
Genoa, 5 9
Galatz, 1 40

Salt—
Antwerp, 100 t. 200 cs.
Barbadoes, 25
Berracoa, 11 3 c.
Bakana, 45 2
Burutu, 59 15
Calabar, 500 sks.
Cape Town, 50 cs. 550 sks.
Conakry, 15,460
Delagoa Bay, 56
Dixcove, 1,275
East London, 100
Galveston, 825
Gefle, 1,465
Ghent, 180 900
Hamburg, 10 trcs. 904 bgs.
Kingston, 110
Havanna, 300
Lagos, 1,875
Lahou, 11,000
Matadi, 3,000
New York, 175 t.
Loango, 500
Opobo, 60 6 c.
Para, 94
P. Elizabeth, 45
Portland, 140
P. Louis, 500
P. Stanley, 20
Rosario, 6 9
Sherbro, 75
Sierra Leone, 25
Sinoe, 25
Talcahuano, 100 cs.
Warri, 672 16
Valparaiso, 250
B. Ayres, 230
Calabar, 500 sks.
Cape Town, 1,715
G. Bassa, 891 bgs.
Madeira, 200

Saltcake—
Ghent, 100 t. 13 c.

Saltpetre—
Iquitos, 1 brl. £1

Sheep Dip—
Algoa Bay, 6 t. 14 c. £108
E. London, 1 10 34
B. Ayres, 78 19 1,091
B'ventura, 1 45
M. Video, 10 307
P. Elizabeth, 6 100
Stanley, F I, 1 14 21
Baltimore, 2 35
Burutu, 2 5
Natal, 6 2 200

Soap—
Accra, 175 bxs.
Addah, 13 bdls.
Adelaide, 3 cs.
Albany, 3
Alexandria, 150 4
Amboina, 850
Amsterdam, 150
Antwerp, 123 30
Assinee, 50 24
Auckland, 34
Austria, 1,100
Axim, 100
Bahia de Caraquez, 50
Banda, 300
Barcelona, 10
Bassam, 100
Bathurst, 1
Beira, 94
Bombay, 163

Soap—
Bordeaux, 2 cs.
Batavia, 2,000 bxs.
B. Ayres, 50 1
Benin, 350
Calcutta, 43 40 dms.
Canaria, 560
Cape Coast, 400
C. Town, 1,325 304
Christiania, 308
Colombo, 224 200
Conakry, 200
Con'nople, 347 65
Delagoa Bay, 633 6 bdls.
Dixcove, 670
Durban, 337
E London, 1,230 286
Genoa, 14 150 pks.
Gibraltar, 15
Gd. Lahou, 350
Hamburg, 3 150
Havre, 11
H. Kong, 3,000 80 dms.
Kingston, 2,947 1 pk.
Lagos, 2,774
Las Palmas, 334
Leghorn, 35
Lome, 210
Lyttelton, 10
Macassar, 975
Madeira, 17
Malta, 4 18
Manaos, 2 1,270 bdls.
Manila, 200
Matadi, 20
Mellila, 400
Mexico, 1
Monte Video, 5 crts.
Mossel Bay, 40
Newcastle, 1
Opobo, 5
Palembang, 825
P. Elizabeth, 638
P. Herald, 100
P. Said, 20
P. Arenas, 4
Rangoon, 1,450
Rio de Jan., 3 cks.
Rotterdam, 1,100
St. Johns, 332
Salonica, 54
Samarindo, 150
Sapeli, 154
Sekondi, 410 100 bdls.
Seychelles, 50
Sherbro, 40
S. Leone, 218
Singapore, 3,514 100
Surinan, 25
Tetuan, 235
Tocopilla, 40
Trinidad, 900
Tumarco, 15 bdls.
Valparaiso, 5 100 dms.
Venice, 4 28 pks.
Warri, 1,000

Soap Extract—
Dunedin, 4 cs. 8 tanks

Soap Powder—
Cape Town, 20 cs.
Colombo, 25 bgs.
Delagoa Bay, 11 cs.
Durban, 10
Rotterdam, 100 bxs.

Soda—
Boston, 30 cks.
Wellington, 10 cs.

Soda Ash—
Bombay, 40 bgs.
Boston, 264 cks.
B Ayres, 442
Constantinople, 550
Genoa, 20 400
Montreal, 150
New York, 105
Oporto, 6
Padang, 20
Yokohama, 600
Bahia, 255 4 kgs.
Calcutta, 1,000
Dunedin, 100
Hiogo, 500
H. Kong, 122
Karachi, 200
Leghorn, 100
Montreal, 3,034
Palermo, 650
Panama, 21
Sydney, 98
Venice, 400

Soda Crystals—
Alexandria, 20 brls.
B. Ayres, 50 kgs. 500 dms.
Malta, 50 50
Sousse 14

Soda Crystals—
Bombay, 50 kgs.
Durban, 50
Gibraltar, 15 bgs.
Perna'buco, 100
Montreal, 250 1,625 305 cks.

Sodium Acetate—
Lisbon, 8 cks.

Sodium Chloride—
Bombay, 1 t. 1 c. £7

Sodium Prussiate—
New York, 50 cks.
Boston, 4 t. 19 c. £193

Sodium Silicate—
Barcelona, 400 bgs.
Bilbao, 300
Bombay, 7 brls.
Braila, 78 cks.
B. Ayres, 302 dms.
Christiania, 60
Melbourne, 40
Piræus, 41
Vera Cruz, 44
Corinto, 30
Havana, 25
Malaga, 8
Odessa, 32
Piræus, 5

Sodium Sulphide—
Barcelona, 13 t. 7 c. £104

Sulphur—
Iquitos, 1 brl. £1
Algoa Bay, 9 t. 12 c. 63
E. London, 1 2 13
Para, 2 1
Gothenburg, 20 225
Kingston, 3 1
S. Leone, 2 1
Calabar, 3 1

Sulphuric Acid—
Dry Harbour, 1 cs. £1
Bahia, 2 3

Superphosphates—
Gijon, 99 t. £294
Malaga, 599 10 c. 1,779
Santander, 297 881
Alicante, 198 587
Teneriffe, 58 1 168
Las Palmas, 28 8 81
Gibraltar, 11 16 33

Tallow—
Rotterdam, 131 bgs.
Adjuah, 1 ck.
Antwerp, 116
Bombay, 30 brls.
Hamburg, 40 tcs.
Maceio, 6
Vigo, 8
Alexandria, 37

Tartaric Acid—
Valparaiso, 3 c. £20
Callao, 1 11

Zinc Muriate—
Bahia, 1 t. 1 c. £13
Ghent, 1 4 16
Tampico, 30 8 365

MANCHESTER.

Week ending November 5.

Ammonium Carbonate—
Montreal, 20 cks.

Barytes—
Montreal, 420 bgs.

Boiler Composition—
Bombay, 6 brls.

Caustic Soda—
Aleppo, 10 t.
Beyrout, 65 dms.
Lattakia, 31

Chemicals (*otherwise undescribed*)
Montreal, 58½ trcs.
Quebec, 35 cks.
Lattakia, 10 brls.

China Clay—
Montreal, 50 cks.
Phila'phia, 120
Gothenburg, 50 bgs.

Coal Products—
Aniline Oil
Philadelphia, 4 cks.
Aniline Salt
Alexandria, 60 cks.
Mersyne, 10 brls.
Tunis, 14

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Coal Products—
Carbolic Acid
Rouen, 5 cks. 10 btls.
Creosote
Montreal, 89 cks.

Colours—
Limassol, 1 ck.
Montreal, 63

Copperas—
Quebec, 25 brls.
Alexandria, 35
Lattakia, 10

Disinfectants—
Bombay, 20 cks. 43 dms.

Dyestuffs (*otherwise undescribed*)**—**
Montreal, 15 cks.
Christiania, 4 50 bgs.

Dyestuffs—
Logwood Extract
Montreal, 70 cks.

Glue—
Germany, 36 cks.
Rotterdam, 100 bgs.

Glycerine—
Montreal, 260 cs.

Linseed Oil—
Bussorah, 5 dms.
Beyrout, 12 brls.
Limassol, 1

Ochre—
Gothenburg, 20 bgs.

Rosin—
Bussorah, 5 cks.

Salammoniac—
Beyrout, 10 brls.

Salt—
Montreal, 925 t.
Quebec, 605

Soap—
Alexandria, 25 cs.
Bombay, 11
Bussorah, 2 kgs.
Malta, 2 cs.

Soda Ash—
Lattakia, 25 brls.

Soda Crystals—
Bussorah, 1 ck.

Sodium Bicarbonate—
Tunis, 20 kgs.

Sodium Bichromate—
Treport, 14 cks.

Sodium Bisulphate—
Gothenburg, 1 ck.

Sodium Borate—
Montreal, 65 brls.

Sodium Sulphate—
Bombay, 275 bgs.
Gothenburg, 50

Stearine—
Rotterdam, 30 brls.

Tallow—
Bombay, 15 brls.
Bussorah, 1 ck.
Rotterdam, 19

White Lead—
Bombay, 6 kgs.

Zinc Chloride—
Bombay, 40 cks.

Zinc White—
Bussorah, 3 kgs.

HULL.

Week ending November 2.

Asbestos—
Hamburg, 8 bgs. 148 bxs.

Bleaching Powder—
Stettin, 12 cs.

Chemicals (*otherwise undescribed*)
Amsterdam, 1 cs.
Antwerp, 21 cks.
Bombay, 2 650 dms. / 48 brls.
Bremen, 5
Bergen, 20
Copenhagen, 60 btls.
Christiania, 21 90 bgs.
Drontheim, 18 10 kgs.
Gothenburg, 450 slbs.
Hamburg, 73
Helsingfors, 1 10 cs.
Libau, 40 kgs.
Reval, 18 dms.
Rotterdam, 51
Riga, 2

Chemicals (*otherwise undescribed*)
St. Petersb'rg. 25 kgs. / 3 cs.
Stettin, 23 cks. 14 dms.
Trieste, 2

Colours—
Amsterdam, 9 cks. 28 dms.
Antwerp, 4 452
Bombay, 20 81 cs. / 100 bxs. 120
Copenhagen, 1 cks. 1 kg.
Christiania, 2 32
Dunkirk, 6
Ghent, 1 68 dms.
Gothenburg, 47 25 bgs.
Hamburg, 16 139 cs. 80 kgs.
Helsingfors, 1
Karachi, 8
Libau, 4
Montreal, 15
Raumo, 1
Rotterdam, 1 20 dms.
Riga, 1
St. Petersb'g, 80
Stettin, 27
Venice, 86
Zeebrugge, 1 88

Cottonseed Oil—
Antwerp, 44 t. 8 c.
Bremen, 8 11
Copenhagen, 1 13
Drontheim, 11
Gothenburg, 7 2
Hamburg, 12 2
Husum, 18
Palermo, 9 17
Rotterdam, 25 9
Stockholm, 14
Stettin, 1 15
Trieste, 30 1

Dyestuffs (*otherwise undescribed*)**—**
Ghent, 6 cks.
Antwerp, 13

Glue—
Dunkirk, 2 bgs.

Linseed Oil—
Bombay, 12 t. 8 c.
Copenhagen, 1 15
Christiania, 5 10
Dunkirk, 6 16
Hamburg, 1
Karachi, 1 12

Manure—
Hamburg, 667 bgs.

Phosphate Powder—
Copenhagen, 708 bgs.

Soap—
Bombay, 10 brls.

Starch—
Drontheim, 20 cs.
Christiania, 30
Antwerp, 1

Tallow—
Riga, 30 brls.
Rotterdam, 30 trcs.
Bombay, 60 cks.

Turpentine—
Bombay, 35 dms.
Copenhagen, 5 brls.
Christiania, 10
Drontheim, 2
Hamburg, 44 cks. 74
Karachi, 10

GLASGOW.

Period ending October 31.

Ammonium Carbonate—
Santos, 10 cs. £17
Bombay, 15 32
Sydney, 5 c. 8
Yokohama, 10 cks. 65
Calcutta, 20 6 63
Dunedin, 5 22
Cologne, 39 95
Rangoon, 10 21

Ammonium Sulphate—
Yokohama, £5,424
Kobe, 19 c. 1 q.

Chemicals (*otherwise undescribed*)
Adelaide, £109
Hiogo, 83
Kobe, 182
Melbourne, 235
Singapore, 70

Coal Products—
Creosote
Calcutta, £24
Pitch
Belgium, £165

Colours—
Japan, £214

Disinfectant—
Cologne, 15 cs. £267
Delagoa Bay, 56 122
Durban, 50 dms. 41

Dyestuffs (*otherwise undescribed*)**—**
U.S.A., Atl., £35
Calcutta, 128

Farina—
Antwerp, 1 t.
Serampore, 2

Ferro Silicon—
Japan, 5 t.

Glycerine—
Canada, Atl., £260

Linseed Oil—
Hong Kong, 1 t.
Cape Town, 2 9 c.

Manure—
Jersey, 31 t. 1 c.

Paraffin (Solid)—
Rouen, 19 c. 3 q.

Paraffin Wax—
S. America, 5 t. 1 c.
Talcahuano, 2 3
Kobe, 25 8

Potassium Cyanide—
Canada, Atl., £65
Vancouver, 350
Sarawak, 542
Kobe, 320
Fremantle, 1,274

Potassium Bichromate—
Canada, Atl., 13 t. 18 c. 1 q.
Montreal, 1 8 3
Melbourne, 8 16
Kobe, 5 10 1

Prussiate (Yellow)—
U.S.A., Atl., 14 c. 3 q.

Red Lead—
Bangkok, 1 t.

Salt—
U.S.A., Atl., 7 t. 15 c. 2 q.

Sheep Dip—
Rio Gallegos, £80
San Julian, 40

Soap—
Algoa Bay, 4 t. 5 c. 2 q.
Bombay, 12

Sodium Cyanide—
Marfil, £2,718
Rosario, 1,274
Fremantle, 413

Sodium Bichromate—
Montreal, 3 t. 2 c. 2 q.
U.S.A., Atl., 3 2 2
Melbourne, 1 11 3

Superphosphate—
Adelaide, 310 t.
Jersey, 298 1 c.

White Lead—
Bangkok, 1 t.

Zinc Oxide—
Calcutta, 2 t. 10 c.

TYNE.

Week ending November 2.

Ammonium Carbonate—
Aarhus, 11 c.

Barium Binoxide—
Hamburg, 26 t. 17 c.
Dunkirk, 10 15 1 q. 15 lb.

Bleaching Powder—
Helsingfors, 65 t. 11 c. 28 lb.
Stockholm, 1 1 2 q. 18
Gefle, 1 9 3 8
Gothenburg, 28 7 26
Amsterdam, 15 2 3 1
Copenhagen, 2 9 3 17
Rotterdam, 10 4 2 27

Caustic Soda—
Hamburg, 2 t. 10 c.
Helsingfors, 13 11 1 q. 20 lb.
Stockholm, 31 17 6
Gefle, 8 13 3 12
Gothenburg, 10 3 14
Copenhagen, 9 8 4
Riga, 10 3 14
Barcelona, 29 15 3 26

Coal Products—
Pitch
Dunkirk, 291 t. 6 c.

Linseed Oil—
Amsterdam, 7 c. 1 q. 2 lb.
Hamburg, 7
Rotterdam, 14 c. 26

Litharge—
Helsingfors, 2 t. 2 q. 10 lb.
Stockholm, 1 5 c. 1 19
Gefle, 2 16 7
Riga, 15 3 9

Manure—
Dunkirk, 4 t. 14 c.
Valencia, 314 1 1 q. 8 lb.
Callera, 101 2 1 8
Barcelona, 107 14 3 21

Red Lead—
Hamburg, 10 t. 12 c. 18 lb.
Helsingfors, 12 1 q. 7
Antwerp, 1 13 3 20
Odessa, 1 11 1 17
Gefle, 6 18 25
Gothenburg, 2 18 10
Amsterdam, 6
Stavanger and Bergen, 4 19 2 23
Copenhagen, 2 16 1 7
Rotterdam, 10

Sodium Sulphate—
Syra, 2 t. 1 c. 1 q. 2 lb.
Stockholm, 11 8 13
Gefle, 12 2 21
Copenhagen, 20 2 5
France, 315
Riga, 9 18 11

Sodium Silicate—
Gothenburg, 2 t. 11 c.

Soda Crystals—
Rotterdam, 20 t. 1 q. 7 lb.

Turpentine—
Amsterdam, 1 q. 22 lb.
Hamburg, 1
Rotterdam, 3

White Lead—
Copenhagen, 4 t. 9 c. 1 q. 5 lb.
Rotterdam, 2 3 1 17

GOOLE.

Week ending November 2.

Ammonium Carbonate—
Copenhagen, 10 cks.
Hamburg, 17
Antwerp, 15

Chemicals (*otherwise undescribed*)
Antwerp, 75 cks. / 100 cs.
Amsterdam, 5
Copenhagen, 10 2
Hamburg, 16
Rotterdam, 14 14 dms.

Coal Products (*otherwise undes.*)**—**
Amsterdam, 53 cks.
Boulogne, 100
Rotterdam, 14 dms.

Coal Products—
Pitch
Antwerp, 1,120 t.

Colours—
Boulogne, 5 cks. 2 cs.
Dunkirk, 73
Ghent, 1

Dyestuffs (*otherwise undescribed*)**—**
Rotterdam, 4 cks.
Antwerp, 2

Manure—
Dunkirk, 311 bgs.
Ghent, 2

GRIMSBY.

Week ending November 2.

Chemicals (*otherwise undescribed*)
Hamburg, 65 cks.
Malmo, 7
Rotterdam, 10 bgs.

Coal Products (*otherwise undes.*)**—**
Dieppe, 94 brls.
Hamburg, 7 pks.

Colours—
Hamburg, 35 cks.

Dyestuffs (*otherwise undescribed*)**—**
Dieppe, 1 cs.
Hamburg, 20 kgs. 13 pks.
Malmo, 1
Rotterdam, 4

Manure—
Hamburg, 2,801 bgs.

Soap—
Dieppe, 24 cs. 6 chts.

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PRICES CURRENT.

FRIDAY, November 15, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids :—				
* Acetic, 25% and 40%	per cwt.	9/-	&	13/-
* ,, Glacial	,,		40/-	
Arsenic S.G. 2,000°	,,		31/-	
* Fluoric	per lb.	0	0	4½
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/-	
,, (Cylinder), 30° Tw.	,,	0	2	9
* Nitric 80° Tw.	per ton	14	15	0
* Nitrous nett	per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
* Sulphuric (fuming 70%)	per ton	6	0	0
* ,, (Pyrites, 168°)	,,	3	2	6
* ,, (,, 150°)	,,		30/-	
* ,, (free from arsenic, 145°)	,,		36/-	
* Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	11½
*Acetone	per ton	81	0	0
Arsenic, white powdered nett	,,	28	15	0
*Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric (in slabs)	,,	2	12	6
Aluminium (Ingot metal 98/99%) nett	,,	200	0	0
*Ammonia, Anhydrous	per lb.	0	1	1
* ,, .880	per ton	24	0	0
* ,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey) London	,,	12	0	0
,, ,, ,, Hull	,,	12	2	6
,, ,, ,, Manchester	,,	12	0	0
*Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt	,,	0	0	4½
Antimony	per ton	41	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
*Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35% nett	,,	4	7	6
* ,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20% nett	per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾d.
Benzol, 90's	per gallon	0	0	9
,, 50/90	,,	0	0	8¾
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅛
,, (liquid 95/97%)	per gallon	0	1	3
* Creosote (ordinary), naked	,,	0	0	2¾
* ,, (filtered for Lucigen light)	,,	0	0	3½
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0
* Pitch, f.o.b. Liverpool or Garston	,,	1	3	0
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	59	0	0
,, Sulphate	,,	21	5	0
,, Oxide (copper scales)	,,	51	10	0
*Glycerine (crude), 80%	,,	37	10	0
* ,, (distilled S.G. 1260°)	,,	61	10	0
Iodine nett	per oz.	0	0	6
*Iron Sulphate (copperas)	per ton	1	10	0
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	20	5	0
,, Litharge Flake (ex ship)	,,	22	15	0
,, Acetate (white) ,,	,,	31	0	0
,, ,, (brown) ,,	,,	26	0	0
,, Carbonate (white lead), pure	,,	24	5	0
,, Nitrate	,,	32	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	7	6
,, ,, (grey) 80%	,,	12	7	6
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0 *
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5 *
Naphtha (Wood), Solvent	,,	0	2	4 *
,, ,, Miscible, 60° O.P.	,,	0	1	10 *
Oils :—				
Cottonseed	per ton	23	15	0
Linseed	,,	24	0	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate nett	,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8¾
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0 *
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	2 15/18
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r. w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0
,, ,, (Alkali), 58% (bags)	,,	4	10	
,, ,, (Soda Crystals)	,,	2	17	*
,, Acetate (ex ship)	,,	17	5	0
,, Arseniate, 45%	,,	23	10	0
,, Borate (Borax), Crystals	,,	16	0	0
,, Bichromate	per lb.	0	0	3
,, Cyanide (100% basis)	,,	0	0	7½
,, Chlorate	,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
,, ,, (74% C. Soda) ,, ,,	,,	10	15	0
,, ,, (70% C. Soda) ,, ,,	,,	10	5	0
,, ,, (60% C. Soda) ,, ,,	,,	9	5	0
,, (pure liq. 90° Tw.) ,, ,,	,,	4	15	0
,, 77/78% powdered (99% hydrate)	per ton	12	10	0
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0 *
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	1½
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3⅝
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6 *
,, ,, (Glauber's Salts)	,,	1	15	0 *
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6 *
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	33	10	0
Tin Crystals	per lb.	0	0	9¾
,, English Ingots	per ton	141	0	0
Zinc (Spelter)	,,	21	10	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0 *
,, Sulphate, Crystal	,,	7	0	0

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* *Packages extra, or returnable.* Otherwise, prices usually include packages.

THE

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AND

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CURRENT TOPICS.

THE SMOKE NUISANCE.

NO excuse is required for reverting once more to such an important subject as that of the abatement of the smoke nuisance in industrial centres. In connection with the recent Gas Exhibition held in Manchester, one of the most interesting features was a series of lectures on this problem. The primary object of the lectures was, of course, to emphasise the advantages which would result by the more universal use of gas in place of coal as fuel. While this would be a good thing for the gas industry, it would incidentally do much to prevent the emission of smoke.

Following these lectures, a meeting was held last week in Manchester, attended by representatives of thirty organisations, and promoted by the Conference of Associations and Institutions engaged in Social Service and by the Manchester and Salford Sanitary Association. At this meeting Mr. A. Gordon Harvey, M.P., in moving a resolution on the subject, expressed the opinion that the inspection of smoke should be placed in the hands of highly trained inspectors responsible to the central authorities, as under the Alkali Acts. This is an argument which has been used in these columns repeatedly. Mr. Harvey observed that the Alkali Acts were now recognised "as a blessing by the manufacturers whom they were passed to control." In supporting his argument he took the standpoint that factory smoke can now be stopped. At the works with which he is himself connected (a firm of cotton spinners and dyers), although 200 tons of coal per week were consumed, there was no smoke nuisance. By the use of the most modern appliances, this had been accomplished with economy in working expenses, and the result was better than could be obtained by the very best and most careful hand-firing. Mr. Harvey went on to observe that for years he had urged the adoption of strong measures to prevent the smoke nuisance, but so long as this could not be done with economy, he felt that there was a poor case to go before the hard-headed manufacturers of Lancashire. Having accomplished this task, however, he believed that the authorities should firmly insist on the abolition of smoke.

The argument as stated by Mr. Harvey represents the only common-sense solution of the problem, so far as manufacturers' smoke is concerned. We recently had the pleasure of reviewing Messrs. Booth and Kershaw's work on "Smoke Prevention and Fuel Economy," in which it is conclusively demonstrated not only that smoke prevention is possible, but that in the attainment of this object it is also possible to effect considerable economies in the use of fuel. If further proof of the soundness of this argument were needed, it is supplied by experiences such as that quoted above by Mr. Harvey:

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The very serious question as to the part played by domestic fires in the production of smoke and fog was also dealt with, in the course of the lectures already mentioned, by Mr. R. H. Clayton, the Vice-President of the Manchester Chemical Club, who quoted some interesting analyses on the subject. Mr. Clayton contended that the pollution of the atmosphere in Manchester was mainly from domestic smoke, and we think that the figures which he quoted (and which will be found reproduced in another column) may be accepted as proof of the charge (also repeatedly made by us) against the domestic fire as the greatest sinner in the production of smoke. After reviewing the various possible solutions of the problem, Mr. Clayton concluded that the use of coke and gas was the most promising, but gas at anything over 2s. per 1,000 cubic feet was too heavily handicapped. In this again we are in complete agreement with Mr. Clayton, and it is unnecessary to recapitulate the arguments in favour of the cheaper supply of gas for power and heating.

We think it may be taken that the case for smoke prevention, so far as industrial furnaces are concerned, has been proved—and this not merely without involving additional cost, but even with the accompaniment of considerable economy. The question of domestic smoke is the most difficult side of the problem. It must, however, be attacked, and it seems to us that the spirit in which the whole question should be approached was indicated by Mr. J. W. Graham, M.A., the Principal of Dalton Hall, Manchester, who presided at the meeting referred to above. Mr. Graham urged that smoke reformers should not be actuated by want of sympathy to any class of the community who in the course of their business had not succeeded in abating the smoke produced by them, but rather in the spirit of co-operation, in view of the great public necessity for the purification of the atmosphere.

TRADE OPENINGS IN RUSSIA.

The recent Anglo-Russian agreement has attracted a good deal of attention to Russia as a possible field for British commercial enterprise. It must be confessed that the hints contained in the reports of our Consular representatives in Russia are not generally regarded as affording sufficiently explicit or expert advice on the subject, and this reason lends additional interest to a series of articles now appearing in the *Financier*, and written by Mr. R. J. Barrett, the Editor of that paper.

Mr. Barrett is of opinion that the Russian Empire of to-day offers an inexhaustible field of opportunities to the British manufacturer who is willing to conform to its requirements. No single country or market is best for all manner of commodities, but Russia, with its vast expanse of territory, offers the British manufacturer an unlimited field. Mr. Barrett then quotes a few figures in support of this argument.

According to preliminary returns just published by the Russian Customs Department, the foreign trade of both European and Asiatic Russia, export and import, in 1906 amounted to £203,583,892., the value of exports having reached £117,107,261., and that of imports £86,476,631. Compared with the year immediately preceding, the former showed a slight decrease, while the imports were in excess of 1905 by £15,306,948. The exports from European Russia were lower in value by £3,386,843., while the value of the export trade of Asiatic Russia increased by £2,614,946. The imports of both the Russias were greater than in 1905 by over £15,000,000. On the whole, the bulk of the trade shows an increase of £14,535,051. The total value of the goods imported into Russia from the United Kingdom in 1906 amounted to over £11,000,000., nearly a million more than in the previous year. There was an increased importation of cotton yarn, wine, spirits and beer, coffee, rice, wool yarns, jute, coal, gold, silver, and platinum, manufactured; the importation of machinery and parts of machines, with the exception of agricultural machinery, also increased, as did flax and hemp, and woollen and cotton manufactures. On the other hand, there was a diminution of the importation of tea, herrings and other fish, raw cotton, cast-iron (raw and worked), iron (assorted), agricultural machinery, and chemicals.

In certain branches of trade in which England has lost ground, it is not the demand that has decreased, but the business activity of the German representatives that has increased. German firms advertise successfully and make their goods known all over the country by means of agents; the English traveller, on the other hand, is very seldom seen at all. The British manufacturer secures some local agent and entrusts him with the sale of his goods. This system, though advisable in some lines, is a grave mistake in many instances, especially in the agricultural and other machinery business, as the local agent has several other similar lines, and it is to his interest to push those on which he has the most profit. On the subject of local agencies Mr. Barrett quotes the opinion of Consul-General C. S. Smith, of Odessa, who says:—"British firms enter into communication with certain persons who, having paid a rouble and got their names entered in British directories, style themselves agents. The firms suffer losses in consequence, and discredit falls indiscriminately on the guilty and the innocent. British traders in Odessa goods should always make careful inquiries on the spot before entering into relations with unknown buyers or sellers."

Commercial travellers in Russia must provide themselves with a travelling licence, costing £5., to which must be added 10% for other extras; in addition to this they must take out a trading licence, costing £15., for the firm or company for whom they are travelling. Suppose that the firm of Smith and Jones manufacture machinery for which there is a demand in the Russian market. Having first sent over a representative able to speak Russian, to examine and compare the machinery used in the country with their own, and having settled the important questions of freight and duties, the firm can go ahead, though they should investigate carefully first. They must protect their patents and secure the best local representatives; they must supply their representatives with a catalogue, printed in Russian, giving a full description of each machine; if the prices of their kind of machinery are given in roubles by other foreign makers, they must do the same, and the pr ce quoted must be f.o.b: the freight car at the local railway station, or on board the steamer at the dock. When sure that they can compete, in results and price, with other foreign makers, Messrs. Smith and Jones may commence by covering the field. A traveller who understands the practical working of the machinery should work in conjunction with the local representative; in doing business with Russians the traveller should remember to go gently and not try to "rush" things. The social side of the question is an important one. The stiff British manner should give way to the affable cosmopolitan manner that is so hard for the average Englishman to acquire. The question of credit is an important one. It is the custom of the country, and cannot be altered. The Russian merchants look at the question of credit from the standpoint that "if a man's

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credit is good, the money is good," and if he gets his 6 to 8% for that money, he considers that the money is just as good as in the bank.

Mr. Barrett continues :—" The real Russian is always ready to help another in trouble. Englishmen who have lived in Russia say they would as soon trust a Russian as an Englishman ; the dishonest element in Russia is certainly not the native element. Russian bankruptcy laws are somewhat lax. If a firm is in financial difficulties, it is allowed to avoid a real bankruptcy by making an application to have its affairs managed for a time by a committee of creditors. In Poland no such arrangement is possible, which fact leads many purely Polish firms to make their nominal headquarters at St. Petersburg, or somewhere in Russia, in order to take advantage of this privilege. The manufacturer, therefore, should be careful in giving credit, but if a certain amount of caution is exercised, there will not be much more possibility of loss than at home."

Summing up the main reasons why English manufacturers find it difficult to do business in Russia, Mr. Barrett gives them in the following order :—(1) Spasmodic and careless representation. (2) Wrong methods of solicitation. (3) Indifference to, or lack of knowledge of, local conditions and requirements. (4) Refusal to make certain small changes in machinery that has proved " satisfactory " at home. (5) An exhibition of too much " superiority." (6) Limited facilities to intelligently handle the demand when it has been found. (7) Unwillingness to allow or modify domestic sale conditions or conform to those of the country exploited. (8) The desire to compel the Russian buyer to learn English in order to help him (the manufacturer), instead of learning Russian to facilitate matters for the buyer. " The total abolition of each and every one of these barriers is easy, and suggests no commercial revolution. Every successful exporter has solved the problem, and found it easy. Let the others go and do likewise."

EXAMINATION OR RESEARCH?

Our contemporary, the *Electrical Review*, publishes some comments on a recent letter to the *Times* by a Fellow of Corpus Christi College, Oxford. The writer of this letter attacks that well-worn bugbear—the examination system, alleging, *inter alia*, that it suppresses all ability and distinction ; sterilises the teachers, amongst whom research does not pay ; renders nugatory all teaching that does not enable a student to pass an examination ; furthermore, when once acquired, the complaint can never be altogether purged from the system, and has, indeed, on occasions been even known to lead to personal violence ! A sufficiently striking list of indictments, we should imagine. But the writer is far from being at the end of his tether. He goes on to denounce the examiners, who, he says, examine so continuously and conscientiously that they can hardly keep abreast of the progress made in their own subject. Outside the University the belief in examination is even more pathetic than within. Parents and others trust so much to examinations simply because such things appeal to the sporting and competitive cravings of a nation that takes the same interest in a "blue ribbon" scholarship that it does in a "blue ribbon" horse race.

Our contemporary agrees, to a certain extent, with this explanation of the state of affairs, but at the same time puts forward the British " paterfamilias " as having too much common-sense to regard himself as an authority on education; For generations it has been impressed upon him by University professors, who certainly have an axe to grind in the matter, that the passing of a series of examinations is at once the object of education and the test of efficiency. This bowing down to the idol of examinations is by no means confined to Oxford ; it is common all the world over. But this fact only goes to prove the pathos of the situation that the average Englishman should have been so long and so uniformly deluded on the subject of education that he has come at last to subscribe to the University profession of faith in examination with all its attendant evils.

THE MONEY MARKET.

SOME interesting comments on the crisis in the money market (which was dealt with at length in these columns last week) appear in the *Investors' Guardian* of the 16th inst. Our contemporary observes that although the adoption of a 7% Bank Rate has been followed by a steady flow of gold from the Continent, which in the week ended November 13 resulted in the arrival of no less than £4,809,000., the international money position is by no means so favourable as this large influx would on the face of things lead one to presume. " New York and its hinterland still hunger for gold ; indeed, the hinterland may be said to be voracious, and to have no means of satisfying itself, The money stringency in the interior of the States shows no signs of abatement. The greatest inconvenience is being caused ; wages are being paid by cheque, and a profitable business in cashing such cheques has arisen. Many industrial concerns, being unable to finance themselves, are dismissing employees and reducing stocks of raw material as much as possible. It is difficult to place contracts with any real idea that they will be carried out to time." The usual crop of rumours and contentions come from New York. We are constantly told that the worst is over, and we may as constantly reply that the present is bad. Gold engagements from abroad continue to increase, and although the improvement is difficult to perceive at this distance, there has been, it is reported, some cancelling of amounts engaged in London. The premium on currency has reached 5% at Pittsburg, and with a state of things in existence that produces such a premium it is futile to talk of the worst being over, for if the worst is over it must have been much worse than we imagined.

" It seems that the hoarding of gold in the States has grown to such an extent that it is being severely resented. The trust companies have indicated individuals who drew out large sums, and similar information has been provided by safe deposit officials, so that the hoarders can be attacked. Mr. Cortelyou now attributes the crisis to hoarding, and has declared that if the money now being hoarded was put back into trade, there would be an almost complete resumption of business in twenty-four hours. But if the crisis is due to hoarding it only shows how deep-seated the lack of confidence in American finance is among the American people, for all Mr. Cortelyou's and Mr. Morgan's assertions as to the soundness of the banking position have failed to move it. That the American public has completely lost faith in trust companies that carry fifty and sixty times their capital and capital liability in deposits is not surprising —what is surprising is that they retained it so long. People on this side are now asking what will happen when the periods of notice for the withdrawal of deposits, which have been insisted on, expire."

REPORTED COPPER " RING."—The *New York Times* states that a huge copper pool has been formed in London. The members of the " ring " are engaged in buying up at a cost of fifteen million dollars 50,000 tons of copper for November and December delivery. We reproduce this report with all reserve.

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THE POSITION OF CHEMISTRY IN GREAT BRITAIN.

INTERESTING SPEECHES AT LIVERPOOL UNIVERSITY.

THE position of chemistry in Great Britain was the subject of several interesting speeches at the first annual dinner of the Liverpool University Chemical Society, held on Saturday last.

Dr. E. K. Muspratt observed that in this country about sixty years ago, owing, he supposed, to the backward state of the Universities, the only way in which chemical science was kept before the public was through the foundation of the Chemical Society of London. The work of the Society greatly impressed Professor Hoffmann, who, when he returned to Germany after spending a number of years at the Royal College of Chemistry, founded the Chemical Society of Germany. The German Society had been of immense advantage in furthering the progress of the science. Some fifty or sixty years ago the English Universities had fallen behind in respect of chemistry. Even in Cambridge, which had taken a prominent place in the promotion of science, they had made their name in physics and not in chemistry. We were now progressing, however, and he was glad to say that in the Northern Universities they had given a prominent place to the great science in which all his hearers were interested. Chemistry in this country was formerly looked down upon; in fact, it was not considered a respectable profession. Even in Liverpool, in those days, although they had in the neighbourhood some chemical manufacturers, there were very few scientific chemists until Dr. Campbell Brown came amongst them. He was gratified to say that in the University of Liverpool they had encouraged the science of chemistry. At a meeting in favour of the establishment of University College he had remarked that it seemed ridiculous to suggest that they should have only one Professor of Chemistry; he went on to say that when he was at the small University of Giessen there were no fewer than five Professors of Chemistry, and he looked forward to the time when, if they had a University in Liverpool, they would have as many professors. He was now glad to say that they had three professors and a large number of lecturers on chemistry at the Liverpool University. It was desirable that all the various departments of chemistry should occasionally be brought together. The professor of general chemistry, the professor of organic chemistry, the professor of physical chemistry, and the professor of biological chemistry were each only pursuing one part of the great service of chemistry, and through their unity, and by the direction they would give to the extension of chemistry in their various departments, the whole science of chemistry would be benefited.

In proposing the toast of "The chemical industries of the Empire," Mr. W. H. Roberts said that the need for improved and more rapid methods of production, and the utilisation of what was once regarded as waste matter, had opened up a great field for those connected with the chemical industries, and those who looked upon matters from the purely scientific point of view. Up to 1880 this country held all the chemical trade; from 1880 to 1890 we held our own with foreign competition, but from 1890 onwards he understood we had been gradually but surely losing ground, and had been importing chemicals into this country at a great rate. That was a matter for regret. He believed that a great deal depended upon British chemists, who, he thought, could do even better than in the past.

In replying to the toast, Mr. Max Muspratt said that the chemical industries of the Empire represented the acme of scientific attainment applied to the practical things of life. It had been truly said that the chemical industry was one of the greatest barometers of trade in the world; the reason was that the products of the chemical industry entered in greater or less proportion into every conceivable walk of life. Mr. Roberts, he thought, had been a trifle pessimistic; the chemical industry of England possibly did not occupy the same proportion of the world's industry that it did before, but it was because the rest of the world could not be expected to go to sleep for ever. The year 1900, which was often referred to by people, was, as all of them knew, a year of decided depression and trouble in England, because their attention and cash were being expended in South Africa; but even in that year the total number of men employed in the chemical industry was about 60,000, whereas in 1880 it was only something like 40,000. Therefore, a dying industry, as some people alleged it to be, managed to find employment for 50% more men in twenty years. In comparing Germany and England they had a number of factors to consider. England started with a ton and stood at the ton; the Germans started with a pound avoirdupois and worked up to the ton. What we in the heyday of prosperity thought was too small and petty to take up, the German took up, because it was the only thing he was then capable of, and he worked up the pound to make it of use. We in England had now to reverse the thing, and build up the small chemical industry upon the heavy one we had established. There was nothing in the state of the chemical industry in England to lead one to be pessimistic in the slightest degree. As long as they brought brain and practical ability to bear upon the problems with which they had to deal, Englishmen always came out on top, because they had a practical instinct. Some Englishmen in the past had thought they could depend upon rule of thumb and push, but they found they could not do it. Such societies as the Chemical Society were getting them away from that idea. They must realise that what they wanted was scientific training as well as practical push. As soon as it was spread throughout the length and breadth of the land, and manufacturers realised that any kind of chemical problem could be best dealt with by scientific men, England would go ahead in a remarkable degree. In science, and science associated with practical knowledge, the future of England rested. They could not as a small nation afford to lose any advantage of that kind. The student members of that society were going out to carry the watchword of science and scientific thought in every branch of industry, and he was perfectly confident that if they carried out that work as their forefathers had carried it out, no fears need be held of a great future prosperity for the chemical industries of the Empire.

Professor Donnan said it was a source of extreme gratification to all of them that so many distinguished gentlemen whose names were connected with the industries of this neighbourhood and the North of England—which were the best industries of England—should have accepted their invitation and favoured them with their presence. There was, for instance, Dr. E. K. Muspratt, who had given the magnificent Muspratt Laboratory, which was an act of quite unexampled generosity. Very few people knew what Dr. Muspratt had done on behalf of the University, and especially in guarding the rights of chemists and of science. He invariably kept a friendly eye on the advancement of science in the University. Another of their guests, Mr. Eustace Carey, had recently received a very high honour in being elected President of the Society of Chemical Industry.

Manganese in Spain.—The Spanish Asturian Mines Company, which works the manganese mines at Enolace, near Covadoang, produced 24,000 tons of manganese oxide during the year 1906-7.

The Malaysian Tin Output.—The following figures, furnished by U.S. Vice-Consul-General G. E. Chamberlain, of Singapore, show the output of tin from the Federated Malay States for the first four months of the years 1906 and 1907. The figures represent tons of 2,240 pounds:—1906: Perak, 8,076; Selangor, 5,255; Negri Sembilan, 1,500; Pahang, 636; total, 15,467. 1907: Perak, 8,187; Selangor, 5,067; Negri Sembilan, 1,386; Pahang, 623; total, 15,263.

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COMMERCIAL ORGANISATION IN INDIA.

FOLLOWING our remarks in a recent issue on British trade with India, a passage from a report by the United States Consul-General is of interest. The Consul-General states that Indian business men have organised Chambers of Commerce, and describes the workings of these bodies. Any question of large importance affecting commercial and trade matters is taken up by this organisation and thoroughly discussed, and if it is desirable to call the attention of the Government thereto, action either through a committee or by an address to the authorities is taken. In this way Indian commercial opinion is brought to bear on the Government in England, and in giving publicity in England to Indian mercantile problems. This body or organisation have recently been considering how to make their methods more effective, and after mature consideration of the question have concluded that what is most needed at this time is a Home Committee of the Indian Chamber of Commerce, to have its headquarters in London, and whose work shall be on the lines of the West Indian committee. Just how to constitute such a committee is the perplexing question. It is thought that the committee should be made up of representatives of the Indian Chambers of Commerce, to be selected by and to be representative of the different Chambers. In this manner it is believed that any friction arising between mercantile opinion existing in India and in England could be minimised. The conclusion is that such an organisation in London, supported by the whole mercantile public in India, would be able to accomplish better results than an independent body not directly responsible to the organisation of the Chambers of Commerce in India.

NITRATE OF SODA.

THROUGH an obvious printer's error, the "visible supply" for Europe was stated in our last week's review of the nitrate position as 786,260 tons, instead of 486,260 tons, consisting of 323,860 tons afloat and 162,400 tons in store, correctly given. Out of 234,000 tons "loading" for Europe on November 1st, only 75,300 tons had sailed up to the 15th inst., and the whole month's shipments are officially estimated at 222,500 tons, against 198,409 tons last year. With a view to supporting the market, every advantage will no doubt be taken of "surf days" and other means of retarding vessels, and the chances are that the actual total will, as so frequently happens, be below the mid-monthly estimate. Ships have been freely chartered at advancing rates to load the enormous quantity of nitrate ready for shipment, but there are still 140,000 tons register of disengaged shipping on the West Coast. There is no change to report in the market, which remains weak in all positions, with prices nominal in the absence of buyers. Ordinary quality is down to 10s. 10½d. per cwt. in Liverpool, and spring delivery is offered at the equivalent of 10s. 9d. in Hamburg. Arrivals are on a large scale, and are difficult to distribute on account of the existing congestion at the principal ports; one large cargo has accordingly been ordered from port of call to Nordenham, which is already overstocked, and two others (7,000 tons together) to Saint Nazaire. Nitrate for prompt shipment from Chili is offered at 8s. 1½d. per quintal, f.o.b., equal to about 9s. 10d. per cwt., cost and freight, or fully 3d. per cwt. under the quotation on this side.

TURPENTINE AND ROSIN.—According to the *Revue des Prod. Chim.*, the Union Resinera Espanola produced last year 3,982 tons of turpentine oil, of which about 2,490 tons were exported, principally to the North of Europe and Switzerland. Of the 14,601 tons of rosin produced by this company during the same period, 3,535 tons were exported, mainly to England.

THE CHINESE CAMPHOR INDUSTRY.

BEFORE the cession of Formosa to Japan, that island was the principal Chinese camphor-producing centre. After the cession the Province of Fuhkien began to be exploited, and during 1906 a great development of the industry took place, not only in the interior, but in the port of Foochow itself. In his report on Chinese trade, Sir Alexander Hosie, the British Acting Commercial Attaché, states that young as this industry is, it appears to be doomed to a premature death, for while the old camphor trees are rapidly disappearing at the hands of the camphor distiller, no replanting is taking place, and five years are assigned for the total disappearance of the tree and the extinction of the industry. Not only is camphor distilled from the camphor-wood tree chips up country, but the oil resulting from this distillation is brought to Foochow in air-tight old kerosene tins, re-distilled, and made to yield some 50% of its weight in camphor. He continues:—"I visited one of these distilleries (there were said to be seventeen owned by Chinese, and others by Japanese) and found distilling in full swing. A brick platform about six feet high contained on one side the furnaces, on the top of which, in two holes, rested two metal retorts with copper worms descending into a cold-water tank forming the other side of the platform, whence two short pipes connected with the worms, projected about a couple of feet or more above ground. The oil was poured into the retorts, which were then stoppered, and the distilled oil, after passing through the worms, was caught in kerosene tins, which were then placed in shallow concreted tanks, filled with water reaching to about the middle of the tins. There they are allowed to stand for 24 hours, during which a certain amount of camphor is deposited in the bottoms of the tins. The oil is then poured off and re-distilled as many as sixteen or seventeen times, until the camphor has all been extracted. The cold-water tank was supplied with water from a pool, over which a staging surmounted by a small wooden reservoir, connected by pipes with the cold-water tank, was erected; the reservoir was filled from the pool. The whole equipment of the distillery was exceedingly primitive, and steam was even rising from the cold-water tank. Surely science could provide a more effective method of extracting the camphor from the oil without the labour of distilling sixteen or seventeen times. The oil camphor is mixed with the camphor from up country."

The camphor shipped from Foochow in 1906 amounted to 13,535 cwts., against 4,805 cwts. in 1905, and the average of 1,574 cwts. in the quinquennial from 1901-05. Kwangsi also produces camphor, and 914 cwts. were shipped from Wuchow to Hong-Kong during the year. Of this, 879 cwts. came under transit pass from Nan-ning (597 cwts.), Pose (261 cwts.), Lungchow (12 cwts.), and Hsünchow (1 cwt). The total export of camphor from China during the year amounted to 17,652 cwts., of the value of £215,734., against 6,384 cwts., valued at £54,732., in 1905. The camphor is mostly shipped to Hong-Kong, whence it finds its way to India.

The British Consul at Foochow also refers to this remarkable boom in the export of camphor from that port. This article first appeared in the Customs Returns in 1902, and the export amounted to only 222 piculs. In 1903 it was 1,444 piculs; in 1904, 1,210 piculs; and in 1905, 4,036 piculs; while in 1906 the export more than trebled that of the previous year. It is stated that at the present rate of tree-felling for distillation of the wood chips, the supply will be exhausted in five years, and the industry will be extinct, for young trees are not being planted, and a tree takes 40 years to grow before reaching camphor-yielding condition. At present, too, large quantities of the camphor oil—the residue from the native distilleries in the interior—are brought to the port in old air-tight kerosene tins and distilled, the oil after sixteen or seventeen separate distillations depositing in cooled receivers, after each distillation, a certain amount of camphor, aggregating a total of about 40 to 50% of the oil's weight. The resulting camphor is mixed with the camphor distilled in the ordinary way and brought down from the interior. Distilling from camphor oil was started by Japanese, who own several distilleries, but the Chinese have now as many as seventeen, and others are in process of construction. They are very primitive establishments, each containing a couple of retorts,

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and there appears to be much waste of time and labour due to the crudity of the system employed. Steam, for example, was rising from the cooling tanks in which the copper worms were immersed. Several British merchants at Foochow informed me that owing to the frequent fluctuations in the value of camphor, they preferred to take no part in this trade. Most of the Foochow output falls into the hands of Parsee merchants in Hong-Kong, by whom it is exported to India.

DYEWOODS IN JAMAICA.

THE Jamaican output of logwood represents about one-fifth of the world's supply. The logwood tree attains an average height of 20 to 30 feet. Its usual age, when felled, is 10 years. When prepared for the market the logs are cut to suitable lengths, and the bark and inner layer of whitewood removed. For many years logwood was exported from Jamaica only in its crude state, but recently factories have been established on the island for the purpose of extracting the colouring matter from the wood, and exporting it to the U.S.A., Great Britain and Germany, where it meets with a ready sale. There are two concerns in Jamaica devoted entirely to this business, one of which started 18 years ago upon local capital. During 1906 this company exported to the U.S.A. $205,293. worth of logwood extract, and in addition made large shipments to Great Britain and Germany. The other factory is controlled by English capital. Since its establishment, the consumption of logwood has increased, with the consequent advantage of higher prices to the grower.

In addition to the large quantities of dyewood directly consumed by the local factories, large quantities are exported, as shown by the following table (taken from a report by the United States Consul at Kingston) showing the logwood exported from each port in the island for the four years 1902-06, and for six months in 1906-07 :—

	1902-3. Tons.	1903-4. Tons.	1904-5. Tons.	1905-6. Tons.	1906-7. Tons.
Kingston	3,616	3,944	1,597	2,000	636
Morant Bay .	1,656	1,432	1,343	983	448
Port Morant .	62	296	561	422	161
Port Antonio..	..	..	..	3	..
Annotto Bay..	1,458	3,759	1,075	1,471	194
Port Maria....	1,948	2,745	2,776	1,410	2,460
St. Anns Bay..	375	798	1,221	284	752
Dry Harbour.	..	..	..	..	..
Falmouth ...	..	1,912	1,783	1,717	1,205
Montego Bay.	2,595	3,130	2,775	3,507	800
Lucea	1,643	2,234	902	639	198
Sav-la-Mar ..	9,469	11,600	9,050	10,277	5,599
Black River...	12,536	9,475	5,517	6,374	4,545
Alligator Pond	124	106	..	..	..
Milk and Salt Rivers	1,393	753	1,405	424	514
Total	36,875	42,184	30,005	29,511	17,512

From the single port of Sav-la-Mar more than 10,000 tons per year are being shipped.

EXPORTS OF FUSTIC.

Fustic is another dyewood, *Morus tinctoria*, grown in Jamaica. The exports of this wood from the several ports of this island are shown in the following table, for fiscal years ending March 31 :

	1903.	1904.	1905.	1906.	Three-fourths year ended December 31, 1906.
	Tons.	Tons.	Tons.	Tons.	Tons.
Kingston	1,547	532	384	689	566
Annotto Bay..	47	53	..	13	55
Port Maria....	530	43	1	221	—
St. Anns Bay..	1,173	822	25	1,002	954
Falmouth ...	..	558	143	..	247
Montego Bay.	662	286	104	1,317	617
Lucea	..	2	..	5	..
Sav-la-Mar ..	892	81	45	691	424
Black River...	825	428	148	729	374
Milk River ...	10	..	..	..	..
Salt River.....	..	..	..	19	..
	5,690	2,809	853	4,689	3,241

VEGETABLE AND ESSENTIAL OILS IN CHINA.

THE exports of vegetable oils from China in 1906 were 661,392 cwts., of the value of 4,865,173 Haikuan taels (£800,726.), an increase of 149,455 cwts. as compared with 1905, and nearly 31% in advance of the average of the five years from 1901-05. They consist of bean, groundnut, tea, wood and other oils. The British Acting-Commercial Attaché at Peking observes in his report that it would be a great convenience if the customs would endeavour to classify these oils and give each class its respective value, for the lump value of different kinds of oils is of no use to anyone who wishes to find the price of, say, bean or wood oil. Such an inquirer may be referred to the returns of individual ports, but unless the particular oil is an export from Tientsin, Shanghai, Hankow, or Canton, he will find merely a list of the principal exports, with quantities, but no values. This might be remedied by an extended list in the abstract of statistics without very much trouble or inconvenience.

Wood oil has come into great prominence in recent years as a varnish and paint oil, and has created a considerable amount of interest in America, Europe, and other parts of the world. The tree from whose fruit it is obtained is *Aleurites cordata* (? Fordii), a native of the Yangtse and West River Valleys. His Majesty's Consul-General at Hankow reports the total export of wood oil from that port as 563,706 cwts., and he places the value (c.i.f.) in Europe or America at £35. per ton, but there are no figures to show how much of the oil was sent abroad ; while His Majesty's Consul at Wuchow reports that 48,329 cwts. passed through the Imperial Maritime Customs destined for foreign countries—in other words, Hong-Kong. Complaint is still made of the adulteration of this oil with bean and other oils, a practice whose continuance will inevitably check the development of an industry capable of great expansion.

The export of essential oils (aniseed, cassia-leaf, etc.) advanced from 611,066 to 945,200 lbs., and the value from £71,920. to £109,061. These are also products of the West River, and the export, under the cognisance of the Imperial Maritime Customs, to Hong-Kong through the port of Wuchow was 2,557 cwts., made up of 2,431 cwts. of aniseed and 126 cwts. of cassia-leaf oil. Most of the latter is shipped by junk to Canton, whence it is exported to Hong-Kong for further distribution. A certain quantity finds its way to Macao as well as to Hong-Kong.

THE MINING INDUSTRY IN JAPAN.

IN a pamphlet recently issued by the Japanese Bureau of Mines it is stated that the distribution of minerals and mineral deposits is peculiar to the Inner and Outer Arcs forming the chief geological feature of the Japanese Islands. The Outer Arc is comparatively perfect in geological formation, the sedimentary rocks composing it being symmetrically developed. The Inner Arc, on the other hand, is complicated in formation, and abounding in dislocations and eruptive rocks. Metalliferous veins are mostly met with in the region of the Inner Arc ; while metalliferous beds are chiefly found in the sedimentary formations of the Inner Arc. Metal-bearing veins generally exist either in eruptive rocks or else in the Tertiary formation, but are also found in Palæozoic rocks.

The principal mines working such veins, according to the *Iron and Coal Trades Review*, are as follows :—

Gold mines : Hashidate, in Echigo ; Yamagano, in Satsuma ; Zuiho and Kinkwaseki, in Formosa. Gold-silver mines : Sado, in Sado ; Ikuno, in Tajima ; Innai, in Ugo ; Ponshikaribetsu, in Hokkaido. Copper mines : Ashio, in Shimozuke ; Osaruzawa, Ani and Arakawa, in Ugo ; Okoya, in Kaga ; Obiye, in Bitchu. Lead mines : Hosokura, in Rikuzen ; Kamioka, in Hida. Antimony mines : Ichinokawa, in Iyo. Tin mines : Taniyama, in Satsuma.

Of the metal mines existing in Japan, copper mines are the most numerous, the discovery of new copper veins being not infrequent, even at present. The copper ores of Japan very often contain more or less of gold or silver.

Of the metalliferous beds, cupriferous pyrites beds are markedly developed in the crystalline schist and the Chichibu systems, while beds of iron ore are especially rich in the Chichibu system. Beds of cupriferous pyrites are widely distributed, being found in the Provinces of Totomi, Kii, Awa, Iyo, Hyuga, and Higo. The Hibira and Makimine copper mines in Hyuga, and the Itsuki copper mine in Higo, are the principal copper deposits in the Chichibu system. Similarly the principal copper mines

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belonging to the crystalline schist system are Higashivama, in Awa; Besshi, in Iyo; and Kune, in Totomi.

The beds of iron ore exist principally in the form of either magnetic or micaceous iron, and are found somewhat transformed by the action of the granite with which the beds are generally found. The principal iron mines are those of Kamaishi and Sen-nin, in Rikuchu; Akadani, in Echigo; Nakakozaka, in Kozuke, etc. Manganese ore generally exists in the Mesozoic system in the shape of irregular masses. The principal non-metalliferous deposits in Japan are coal and petroleum. They are found chiefly in the Inner Arc, where the Tertiary formation prevails, while stratified metalliferous beds are found in the Outer Arc. In Formosa, however, the coal-bearing beds are found in the Tertiary formation existing in the Outer Arc region.

Of the metalliferous deposits, those forming impregnations are especially found in the north of the Inner Arc. At the Kosaka mine, in Rikuchu, which has recently become one of the most important copper-silver mines of Japan, though it was a worked-out silver mine, ore deposits, locally known as "Kuromono" (black ores), are being mined.

MINERALS IN AUSTRALASIA.

THE American Consul at Newcastle, New South Wales, reports a large addition to the value of the mineral production in 1906. The mineral output of the State for the year was valued at $40,848,120. This is an increase over that for 1905, which previously stood as a record, of $5,418,655. In the course of the years 1905 and 1906 the mineral industry has thus shown an expansion of $8,889,300. The aggregate value of all minerals won in this State to the end of 1906 was $862,801,910. The total number of persons employed in and about the mines of the State during the year is estimated at 42,546, being 3,614 in excess of the number employed in 1905.

The gold produced to the end of 1906 amounted to 12,786,638 ounces fine, valued at $271,570,810. The yield recorded for 1906 was 253,987 ounces fine, valued at $5,394,330.; this was 20,280 ounces fine, and $430,735. in value less than in 1905. These figures do not, however, accurately reflect the position of the industry, as gold to the further value of $800,590. was purchased from the mines within this State, but was not lodged at the mint and could not be included in the official figures for 1906. This gold has, therefore, to be carried forward to the year 1907. The yield was contributed by the established mines, no new find of importance having been recorded during the year. The value of the exports from the silver-lead mines is as follows:—Silver, silver-lead, concentrates, ore, etc., $14,314,865.; lead (pig), $5,420.; zinc (spelter and concentrates), $1,464,030., a total value of $15,784,315. This exceeds the value of the output for 1905 by $2,194,995., and since the year 1903 the value of the output has increased by $7,651,435.

The value of the output of copper was $3,947,635., an increase of $1,310,620. on that of the previous year. The tin and tin ore produced during the year was valued at $1,278,720., and was in excess of that of the previous year by $148,170. This output exceeds that of any other year since 1888. The value of the output from the tin fields of the State to the end of 1906 is $38,722,545., and the number of men employed in this branch of the industry during 1906 was 3,795, an increase of 911 compared with the previous year.

THE ST. PETERSBURG CHEMICAL LABORATORY COMPANY made a profit of 51,200 roubles (£5,120.) in 1906 working year, and will pay a dividend of 5¼%.

RUSSIAN SALT.—The Odessa salt industries (says the *Torg. Prom. Gazeta*) have produced about 2,500,000 poods in the season, which has been a fairly productive one; nevertheless, the prices have been well maintained throughout. A report from Astrachan says that the Baskuntchak salt producing season has closed. The stocks on hand are about 11,000,000 poods. The despatches still continue, and it is calculated that the total despatched during the season will reach 24,000,000 poods = 390,000 tons. The season opened with high prices; but these gradually fell away. Thirty-three treasury salt-bearing areas were put up to auction on October 24, and all were bid for at rentals varying from 10 roubles, 80 copecks (20s. 10d.) to 46s. per 1,000 poods (16 tons) of salt produced, with a minimum guaranteed annual production of 50,000 to 100,000 poods, according to the importance of the area.

Continental Notes.

IN the *Chemiker-Zeitung* for October 30, November 2, and November 9, Dr. A. Mailhe writes on a new method for causing organic compounds to combine with hydrogen, use being made of finely divided metals as catalytic agents. This method, which was invented by Prof. Paul Sabatier, consists in passing the vapour of the organic compound, together with purified hydrogen gas, over finely divided metallic nickel, cobalt, or copper, which is heated to a suitable temperature in a glass tube. By this means it is possible to operate on a fairly large laboratory scale, and even on a small manufacturing scale, and the yields obtained are in many instances far better than by the old methods of reduction with sodium amalgam in acid or alkaline solution, or with iron and acetic acid, or zinc and hydrochloric acid. To carry out a catalytic hydrogenisation, nickel or copper oxide is introduced into a tube and heated to 350° or 400° C., and hydrogen is led over it until the oxide has all been reduced to metal, that is, until the escaping gas contains no water vapour. The metal, which is in an extremely finely divided state, and is strongly pyrophorous, is allowed to cool in the stream of hydrogen; it is then heated to the required temperature, and the hydrogen, together with the vapour of the compound, is led over. This temperature depends upon the reaction that is to be effected, and must be rigidly adhered to, as the molecule will be destroyed if the temperature rises too high. Of the different metals, nickel is the most active, then cobalt, and finally copper. The stream of hydrogen is to be regulated in such a way that but little of the gas escapes from the tube. The reaction may be allowed to proceed continuously day and night, with but little supervision. The hydrogen is purified by washing it with sulphuric acid and caustic soda, and then leading through a tube heated to redness and containing copper borings. This is necessary in order to remove all impurities, which would impair the activity of the metal. But in spite of these precautions it eventually becomes inactive, and has to be resuscitated by dissolving in nitric acid, igniting the nitrate to produce the oxide, and then reducing as before in hydrogen. Traces of chlorine and bromine are particularly deleterious. For instance, nickel had been in use for ten days for the reduction of phenol, without any perceptible falling off in the activity. It then happened that some bromine was used in the laboratory, and traces of it must have been dissolved in the phenol, although it could not be detected by analysis, for the action immediately ceased. Many instances are given with details of the addition of hydrogen to such compounds as ethylene, benzene, and phenol esters. In some cases quite different compounds can be produced by merely varying the temperature.

In the issue of October 30 there appears a note by O. Vogel on the history of the magnetic concentration of ores. He points out that in a work published by Balthaser Rössler, in 1700, the use of the magnet is recommended for the separation of tin stone from ironstone. This was carried out both in the dry and wet state.

G. Buchner writes briefly on the saponification of beeswax, and brings forward figures to prove that if the determination be carried out properly, quite reliable values for the saponification equivalent can be obtained; it makes no difference whether the wax be boiled with the alcoholic potash for one hour or three. He takes 3.6 grammes of wax, 70 c.c. of alcohol (96%), and about 33 c.c. of a half-normal solution of caustic potash in absolute alcohol.

The issue of November 2 contains a paper on new solvents for use in dissolving organic substances. There are various objections to the use of all the solvents now usually employed. Benzene and carbon bisulphide are dangerous on account of their inflammability, whereas the uninflammable carbon tetrachloride, in the presence of water, attacks iron, copper, and zinc, and even the expensive lead-lined plant has only a limited life. There are, however, now on the market a number of compounds of carbon, hydrogen, and chlorine, which are derived from acetylene tetrachloride (symmetrical tetrachlorethane). These compounds are: Dichlorethylene, boiling-point 55° C.; trichlorethylene, b.p. 88°; perchlorethylene, b.p. 121°; tetrachlorethylene, b.p. 147°; pentachlorethane, b.p. 159°; and, finally, hexachlorethane, which is a solid, and can in many instances be used as a substitute for camphor. The three ethylene derivatives are practically indifferent to iron, copper, lead, and zinc in the presence of water, and are not affected by acids and alkalies. They do not act chemically upon fats or oils in the presence of

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metals. Trichlorethylene is especially useful on account of its convenient boiling point. It is practically insoluble in water, and is easily distilled off with steam. Tetrachlorethane is also an excellent solvent for fats, oils, and resins, and also for cellulose acetate, which is coming into use in the celluloid industry. It is the best known solvent of sulphur, with which it mixes in all proportions at temperatures above 120°.

In the same issue W. Bremer describes a new apparatus for the rapid determination of the dry substance in wheat gluten.

SMOKE ABATEMENT.

In the course of a lecture on smoke abatement, delivered recently in Manchester, Mr. R. H. Clayton, Vice-President of the Manchester Chemical Club, said that he hoped to show that many of the efforts made to solve this problem had been very misguided. The solution of the smoke problem must come by attacking the domestic fire. He agreed with Dr. Bailey and other authorities that about 70% of the smoke in the atmosphere was from domestic chimneys, and the rest from factories. People were apt to consider that the whitish domestic smoke was not so noxious as the smoke from the factory chimneys, but some results he had got would show that it was more so. Taking the average consumption of coal for domestic purposes as 1½ tons per head per annum, the total annual consumption for England would be 50,000,000 tons altogether. The coal consumed by factories, chemical works, iron foundries, and other trades amounted to 65,000,000 per annum, but a great deal of this was used for purposes which were absolutely smokeless. Take, for example, the Mond gas plants; these in the neighbourhood of Manchester alone would account for 1,000,000 tons a year, and the process was completely smokeless. Another cause which was bringing about the diminution of factory smoke was the growing use of mechanical stokers. Mr. Clayton instanced the two chimneys of the Salford Corporation electric lighting station, where mechanical stokers were used; it was marvellous how little smoke was emitted; one might almost imagine they were never working there. It was the same with the Manchester electricity works. These two establishments alone accounted for about 100,000 tons per annum. Only part, therefore, of coal used in factories, etc., was burnt in a smoke-producing way. On the subject of the waste of fuel involved in the emission of smoke, Mr. Clayton said that the percentage of loss from this cause in the case of a factory chimney was very small; it could be calculated as one, two, or three per cent. of the fuel, whereas the loss in the case of a domestic chimney was something like 50%.

Mr. Clayton then endeavoured to demonstrate by an interesting series of analyses that the pollution of the atmosphere in Manchester was mainly from domestic smoke. The distinctive characteristic of domestic smoke is that it is laden with oily hydrocarbons (tarry oils) and ammonia, owing to its being produced at a low temperature, whereas factory smoke is nearly all pure carbon. In the following table of analyses of domestic smoke, factory smoke, and the Manchester atmosphere, these constituents are calculated according to the proportion they bear to the amount of pure carbon:—

Origin	Carbon.	Hydrocarbons. Acid Constituents Soluble in Caustic Soda.	Hydrocarbons. Tarry Oils Soluble in Benzene.	Ash.	Ammonia Calculated as Ammonium Sulphate.
Domestic soot....	100	34.7	29.5	40.7	61.4
Do. (Knecht)	100	23.7	28.3	40.6	28.3
Boiler soot—					
Avg. of 36 hours..	100	0.24	1.73	26.2	—
Avg. of 4 days ...	100	0.3	2.2	43.6	4.6
Chimney emitting dense smoke for 3 hours	100	0.26	4.45	11.3	3.13
Manchester air—					
Analysis by Bailey.	100	—	36.6	94.0	—
Deposit on air filters—					
Midland Hotel ...	100	9.13	18.2	130.0	20.4
Do. week-end..	100	18.3	24.7	94.2	18.8
Manchester snow—					
Whitworth-street (Knecht)	100	—	7.7	115.0	0.62
Cheetham Hill (Irwin)	100	—	14.2	91.0	—

The analysis of the polluting matter in Manchester air shows that it approximates most nearly to domestic smoke, as shown by the amount of tarry oils, ammonia, and other constituents that are characteristic of domestic smoke. The comparatively innocent appearance of a domestic chimney was due largely to the fact that a large amount of the smoke came off in the form of these oils, which, when in a hot and vaporous state, were colourless, not black like factory smoke. Another reason for the better appearance of domestic smoke at the actual moment of being poured out was that it was diluted with a much larger amount of air. Ten times as much air in proportion to the amount of coal burned passed up a domestic chimney as passed up a factory chimney. Pointing to a diagram of an ordinary domestic grate and a gas retort, the lecturer observed that they were constructed on very much the same principle. Both were distilling the coal, but in the one the products of distillation were poured into the air, in the other they were collected and used as valuable industrial materials.

In calculating the cost of the smoke nuisance, Mr. Clayton pointed out that if we put the cost of extra cleansing, etc., at only a halfpenny a day per head, it worked out at £500,000. a year for Manchester alone. After reviewing various possible solutions, he said that coke and gas were the most promising. But gas at 2s. 3d. a thousand, or anything over 2s., was too heavily handicapped. They ought to endeavour to supply gas as cheaply as possible. Manchester spent £64,000. a year on the purification of sewage to prevent the pollution of the rivers; on the other hand, they were handicapping the much more important purification of the atmosphere by taking £60,000. a year out of gas for the rates.

Reports of Companies.

RUSSIAN PETROLEUM AND LIQUID FUEL CO., LTD.

A meeting of shareholders was held on Monday last to authorise the directors to apply the investments of the reserve fund in accordance with a scheme to be submitted to the meeting. The Hon. E. Hubbard, chairman, presided.

The Chairman said that the board thought the time had now arrived when the shareholders should be asked to decide one way or the other. Agitation indefinitely continued must be fatal to the company. He proceeded to reply to current criticisms on the management, which attributed the present position of the company to contracts made. Those contracts were three in number, and he contended that each was fully considered before it was entered into, and that it was entered into in the best interests of the company. The trouble which the board found itself in was due to the strikes and troubles in Russia, and the falling off in the production. The shareholders must clearly understand that at the present moment the most pressing difficulty was that of finance, and that further working capital before the New Year was imperative. The board did not take up any non-possumus attitude. He quite understood the dissatisfaction of a great many shareholders at receiving no dividend. He felt it himself, but he also knew that there was a certain number of shareholders who considered that they wanted more direct representation on the board. If that was so, and if this meeting should think it would meet their interests to accept two gentlemen, he would say on behalf of the board that they were perfectly ready to accept their names provided they had business capacity and experience, and were willing to bring a fair and impartial mind to bear on the problems before the company. He would propose in that case to adjourn the preference meeting for eight days, so that the new directors would be able at once to get to work.

A motion of no confidence in the directors was moved and seconded, but withdrawn. The Chairman then put a resolution that had been submitted deprecating the continuance of the agitation, and requesting the board to continue in office. On a show of hands the Chairman declared that there was a majority against the board, and a poll was demanded.

Mr. Lever did not think a useful object would be served by taking a poll, and asked that the meeting of the preference shareholders be held.

The Chairman said he knew that the great bulk of the shareholders were in favour of the present board. The proxies so far handed in in their favour were 563,988, and none had been handed in on the other side. He therefore declared the resolution carried.

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A meeting of preference shareholders was then held to consider, and, if approved, to pass a resolution empowering the board to apply from the investments of the preference shareholders' reserve fund any sum required not exceeding £52,500. to the redemption of first debentures on or before 1st January, 1908. The Chairman mentioned that the vote they were asked to give was a very important one, and one which might be very decisive of the future of the company. He and his family held some 20,000 preference shares, so it was not likely that he was proposing anything which would be against the interests of the company. He proposed that the meeting be adjourned for eight days, and that two gentlemen should be selected to represent them in regard to the financial position. The names of Mr. Lever, Mr. Burke, and Mr. Shaw Kennedy were proposed and agreed to, and the meeting was then adjourned.

LONDON NITRATE CO., LTD.

The directors recommend a final dividend on account of the year to June 30 of 10s. per share, free of income tax, making (with the 5s. interim dividend paid May 1) 15s. for the year. The sum of £10,000 has been appropriated to reserve fund and £2,976 carried forward.

Our Book Shelf.

DYEING IN GERMANY AND AMERICA, WITH A CHAPTER ON COLOUR PRODUCTION. By Sidney H. Higgins, M.Sc. Pp. 112. Manchester: The University Press. 1907. 1s. net.

This volume forms No. IV. of the "Gartside Reports on Industry" made by the Gartside Scholars at the Manchester University, and contains the impressions of a tour in Germany and the United States in 1905-06. The author explains that he originally intended to avail himself of the statistics of the imports and exports of the countries under consideration, but the fact that the figures are so unsatisfactory in general; that they can be so differently interpreted; and that England, which caters principally for home consumption, has no adequate record of home trade, led him to abandon the idea. He observes, however, that the figures for aniline compounds are certainly of importance, but they are not issued separately, and therefore no satisfactory conclusion can be arrived at. Nor can a country's prosperity be gauged by merely examining the returns of imports and exports. The home consumption is of importance, insomuch as the English aniline colour industry would be considered highly prosperous if we supplied our own needs and there were no imports or exports. Likewise America might be flourishing, and yet have little or no foreign trade. In reading figures it must always be remembered that the main quantity of business is local, and that exchanges take place more between the members of a community themselves than between the community and the outside world.

The book under review is divided into ten chapters. In Chapter I the distribution of the industry in Germany and America is considered, together with the development of the art of dyeing, the influence of chemistry, the opposition to progress, hank dyeing, and washing and cloth dyeing. Chapter II. deals with cop dyeing; Chapter III. with sulphur colours and indigo; Chapter IV., mercerising; Chapter V., bleaching; Chapter VI., the industry in the United States—American conditions, such as scarcity of labour, the lack of specialisation, and the effect of the tariff, being considered. Chapter VII. deals with the industry in Lowell, Lawrence, and Fall River (Mass.). In Chapter VIII. such questions are dealt with as the injurious conditions of work in the industry, and the comparison of these conditions in England, Germany, and America, wages in the three countries, short hours, etc.

In Chapter IX. the author deals with the question of efficiency in the industry. He considers that Germany is in many respects a few years behind this country; in some of the branches it is highly developed, but in general development he considers that we lead. Mr. Higgins observes that we hear much about the application of chemistry to art in Germany, but he did not find that the Germans employed more scientific skill in dyeing. The wages paid in the industry are too small to command the best skill, and this drifts to the colour works. The author goes on to record his impressions that the responsible positions in the American calico printing works are often filled with Englishmen, English machinery has been largely used, and Englishmen are being brought over to teach in the textile schools. It is also interesting to learn that empirical methods are as prevalent in America as they are here, although, of course, he found some of the dyeworks in America conducted on thoroughly scientific lines. It is also gratifying to learn that, in the opinion of the author, as far as the dyeing industry is concerned, the exhortations sometimes addressed to us to reform our methods do not urgently call for attention.

A chapter on colour production completes a very interesting report, and there can be no doubt that the impressions received by carefully trained men such as the Gartside Scholars, and recorded in this manner, are an important contribution to the study of international industrial conditions.

CHEMICAL HANDICRAFT: AN ILLUSTRATED AND PRICED CATALOGUE OF CHEMICAL APPARATUS AND REAGENTS. Pp. 615. London: John J. Griffin and Sons, Ltd.

Griffin's "Chemical Handicraft" is too well-known to our readers to require any introduction. The new edition now before us forms a very complete catalogue of chemical and physical apparatus. The volume comprises well over 600 pages, and it will find its accustomed place on the laboratory shelves.

Books Received.

"CONCRETE AND CONSTRUCTIONAL ENGINEERING," November.

GLASGOW AND WEST OF SCOTLAND TECHNICAL COLLEGE CALENDAR, 1907-08. Pp. 386. Glasgow: Robert Anderson.

INSTITUTE OF CHEMISTRY: PROCEEDINGS, 1907. Part IV. Pp. 24. London: 30, Bloomsbury Square, W.C. 1s.; post free, 1s.1d.

REPORT OF THE FUELS COMMITTEE OF THE MOTOR UNION OF GREAT BRITAIN AND IRELAND. Pp. 80. London: Published by the Committee. 1s.

PRACTICAL TEST BOOK OF CHEMISTRY. By J. D. Palmer, M.A., M.D. Pp. 190. New York: John Wiley and Sons. London: Chapman and Hall, Ltd.

"RED BOOKS" OF THE BRITISH FIRE PREVENTION COMMITTEE: No. 125, LOAD TEST OF FLOORS. Pp. 20. London: Published at the Offices of the Committee. 2s. 6d., net.

THE CHEMISTRY AND TECHNOLOGY OF MIXED PAINTS. By Maximillian Toch. Pp. 166, with 60 photomicrographic plates and other illustrations. New York: D. Van Nostrand and Co. London: Crosby Lockwood and Son.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

G. C.—We think that the British Xylonite Co., Hale End, London, E., would be able to supply the material.

A. M. AND CO.—Messrs. Rose, Downs and Thompson, Ltd., Old Foundry, Hull, will be able to supply the oil presses you require.

F. B. AND G., LTD.—The makers of "Carbolacene" are Messrs. W. and F. Walker, Colonial House, Liverpool. "Solignum" is made by Messrs. Major and Co., Sculcoates, Hull.

H. N. (BERLIN).—Our annual tables of imports of chemicals, published in our 1907 Special Issue, contain some of the figures for which you ask. Nitric acid is not shown separately in the official returns, and we are not aware of any reliable figures of production and consumption in this country.

PEASE AND PARTNERS.—The directors have resolved to pay (on the 16th December) an interim dividend on the ordinary shares of 8s. per share, equal to 4%, being at the rate of 8% per annum.

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THE NEW PATENTS ACT.

PART I.—(*Continued from page 423.*)

Miscellaneous.

37.—Where, after the commencement of this Act, a patent is granted to two or more persons jointly, they shall, unless otherwise specified in the patent, be treated for the purpose of the devolution of the legal interest therein as joint tenants, but, subject to any contract to the contrary, each of such persons shall be entitled to use the invention for his own profit without accounting to the others, but shall not be entitled to grant a licence without their consent, and, if any such person dies, his beneficial interest in the patent shall devolve on his personal representatives as part of his personal estate.

38.—(1.) It shall not be lawful in any contract made after the passing of this Act in relation to the sale or lease of, or licence to use or work, any article or process protected by a patent to insert a condition the effect of which will be—

(*a*) to prohibit or restrict the purchaser, lessee, or licensee from using any article or class of articles, whether patented or not, or any patented process, supplied or owned by any person other than the seller, lessor, or licensor or his nominees; or

(*b*) to require the purchaser, lessee, or licensee to acquire from the seller, lessor, or licensor, or his nominees, any article or class of articles not protected by the patent;

and any such condition shall be null and void, as being in restraint of trade and contrary to public policy.

Provided that this subsection shall not apply if—

(i) the seller, lessor, or licensor proves that at the time the contract was entered into the purchaser, lessee, or licensee had the option of purchasing the article or obtaining a lease or licence on reasonable terms, without such conditions as aforesaid; and

(ii) the contract entitles the purchaser, lessee, or licensee to relieve himself of his liability to observe any such condition on giving the other party three months' notice in writing and on payment in compensation for such relief in the case of a purchase of such sum, or in the case of a lease or licence of such rent or royalty for the residue of the term of the contract, as may be fixed by an arbitrator appointed by the Board of Trade.

(2.) Any contract relating to the lease of or licence to use or work any patented article or patented process, whether made before or after the passing of this Act, may at any time after the patent or all the patents by which the article or process was protected at the time of the making of the contract has or have ceased to be in force, and notwithstanding anything in the same or in any other contract to the contrary, be determined by either party on giving three months' notice in writing to the other party; but where any such notice is given determining any contract made before the passing of this Act, the party giving the notice shall be liable to pay such compensation as failing agreement may be awarded by an arbitrator appointed by the Board of Trade.

Legal Proceedings.

(3.) Any contract made before the passing of this Act relating to the lease of or licence to use or work any patented article or process and containing any condition which, had the contract been made after the passing of this Act, would by virtue of this section have been null and void may, at any time before the contract is determinable under the last preceding sub-section, and notwithstanding anything in the same or any other contract to the contrary, be determined by either party on giving three months' notice in writing to the other party, but where any such notice is given the party giving the notice shall be liable to pay such compensation as, failing agreement, may be awarded by an arbitrator appointed by the Board of Trade.

(4.) The insertion by the patentee in a contract made after the passing of this Act of any condition which by virtue of this section is null and void shall be available as a defence to an action for infringement of the patent to which the contract relates brought while that contract is in force.

(5.) Nothing in this section shall—

(*a*) affect any condition in a contract whereby a person is prohibited from selling any goods other than those of a particular person; or

(*b*) be construed as validating any contract which would, apart from this section, be invalid; or

(*c*) affect any right of determining a contract or condition in a contract exercisable independently of this section; or

(*d*) affect any condition in a contract for the lease of or licence to use a patented article, whereby the lessor or licensor reserves to himself or his nominees the right to supply such new parts of the patented article as may be required to put or keep it in repair.

39.—(1.) The comptroller shall, in proceedings relating to an opposition to the grant of a patent or to an application for the amendment of a specification or the revocation of a patent, have power by order to award to any party such costs as he may consider reasonable, and to direct how and by what parties they are to be paid, and any such order may be made a rule of the court.

(2.) If a party giving notice of opposition to the grant of a patent or to the amendment of a specification, or applying to the comptroller for the revocation of a patent, or giving notice of appeal from any decision of the comptroller, neither resides nor carries on business in the United Kingdom or the Isle of Man, the comptroller, or, in case of appeal to the law officer, the law officer, may require such party to give security for costs of the proceedings or appeal, and in default of such security being given may treat the proceedings or appeal as abandoned.

40.—The law officer may examine witnesses on oath and administer oaths for that purpose, and may make rules regulating references and appeals to the law officer and the practice and procedure before him under this Part of this Act; and in any proceeding before the law officer under this Part of this Act, the law officer may order costs to be paid by either party, and any such order may be made a rule of the court.

41.—(1.) An invention covered by any patent applied for on or after the first day of January one thousand nine hundred and five shall not be deemed to have been anticipated by reason only of its publication in a specification left pursuant to an application made in the United Kingdom not less than fifty years before the date of the application for the patent, or of its publication in a provisional specification of any date not followed by a complete specification.

(2.) A patent shall not be held to be invalid by reason only of the invention in respect of which the patent was granted, or any part thereof, having been published prior to the date of the patent, if the patentee proves to the satisfaction of the court that the publication was made without his knowledge and consent, and that the matter published was derived or obtained from him, and, if he learnt of the publication before the date of his application for the patent, that he applied for and obtained protection for his invention with all reasonable diligence after learning of the publication.

42.—A patent shall not be held to be invalid on the ground that the complete specification claims a further or different invention to that contained in the provisional, if the invention therein claimed, so far as it is not contained in the provisional, was novel at the date when the complete specification was put in, and the applicant was the first and true inventor thereof.

43.—(1.) If the person claiming to be inventor of an invention dies without making an application for a patent for the invention, application may be made by, and a patent for the invention granted to, his legal representative.

(2.) Every such application must contain a declaration by the legal representative that he believes him to be the true and first inventor of the invention.

44.—If a patent is lost or destroyed, or its non-production is accounted for to the satisfaction of the comptroller, the comptroller may at any time seal a duplicate thereof.

45.—(1.) The exhibition of an invention at an industrial or international exhibition, certified as such by the Board of Trade, or the publication of any description of the invention during the period of the holding of the exhibition, or the use of the invention for the purpose of the exhibition in the place where the exhibition is held, or the use of the invention during the period of the holding of the exhibition by any person elsewhere, without the privity or consent of the inventor, shall not prejudice the right of the inventor to apply for and obtain a patent in respect of the invention or the validity of any patent granted on the application, provided that—

(*a*) the exhibitor, before exhibiting the invention, gives the comptroller the prescribed notice of his intention to do so; and

(*b*) the application for a patent is made before or within six months from the date of the opening of the exhibition.

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(2.) His Majesty may by Order in Council apply this section to any exhibition mentioned in the Order in like manner as if it were an industrial or international exhibition certified as such by the Board of Trade, and any such Order may provide that the exhibitor shall be relieved from the condition of giving notice to the comptroller of his intention to exhibit, and shall be so relieved either absolutely or upon such terms and conditions as may be stated in the Order.

46.—(1.) The comptroller shall issue periodically an illustrated journal of patented inventions, as well as reports of patent cases decided by courts of law, and any other information that he may deem generally useful or important.

(2.) Provision shall be made by the comptroller for keeping on sale copies of such journal, and also of all complete specifications of patents in force, with any accompanying drawings.

(3.) The comptroller shall continue, in such form as he deems expedient, the indexes and abridgments of specifications hitherto published, and shall prepare and publish such other indexes, abridgments of specifications, catalogues, and other works relating to inventions, as he thinks fit.

47.—(1.) The control and management of the Patent Museum and its contents shall remain vested in the Board of Education, subject to such directions as His Majesty in Council may think fit to give.

(2.) The Board of Education may at any time require a patentee to furnish them with a model of his invention on payment to the patentee of the cost of the manufacture of the model, the amount to be settled, in case of dispute, by the Board of Trade.

48.—(1.) A patent shall not prevent the use of an invention for the purposes of the navigation of a foreign vessel within the jurisdiction of any of His Majesty's Courts in the United Kingdom, or Isle of Man, or the use of an invention in a foreign vessel within that jurisdiction, provided it is not used therein for or in connection with the manufacture or preparation of anything intended to be sold in or exported from the United Kingdom or Isle of Man.

(2.) This section shall not extend to vessels of any foreign state of which the laws do not confer corresponding rights with respect to the use of inventions in British vessels while in the ports of that state, or in the waters within the jurisdiction of its courts.

(To be continued.)

Indian Notes.

A NEW Bacteriological Department for India on a permanent basis has been sanctioned.

Large orders have been sent to South America from India for nitrate for the cotton fields.

The Chinese merchants in Rangoon propose establishing a Chinese Chamber of Commerce.

The appointment of Inspector-General of Excise and Salt has been created, at a salary of Rs.3,000. monthly.

Japanese merchants are capturing the Indian and Chinese trade by the facilities they give to the buyers.

The Mysore State Geologist is proceeding to Italy, to study the new invention of smelting iron by electricity.

From January 1 next a royalty of Rs.10.0 per 100 viss (a viss equals 3.125 lbs.) will be levied on all lac exported by sea from Burma.

The value of the imports into India during the month of August, compared with the corresponding months in 1905 and 1906, shows a remarkable development, *viz.*:—Chemicals, drugs, narcotics, etc., 1905, Rs.11,471,186.; 1906, Rs.11,818,707.; 1907, Rs.14,232,595. Mineral and other oils: 1905, Rs.11,356,265; 1906, Rs.12,306,966.; 1907, Rs.15,694,665. The exports of manganese have increased, the figures being, 1905, Rs.1,495,433.; 1906, Rs.2,761,910.; 1907, Rs.3,857,236.

Investigations are proceeding on the suitability of Indian bauxite for the manufacture of alumina, the utilisation of by-products in coke making, the ores suitable for the smelting of copper and the manufacture of copper sulphate and sulphuric acid, the question of importing the richer and purer ores of iron, and the manufacture of iron and steel in India, the comparison of Indian manganese ores with those received from other parts of the world at the steel works in the North of England, etc.

The Secretary of State has sanctioned the appointment of a second Inspector of Explosives in India, whose duties will be identical with those of the present Inspector of Explosives.

The factories in Bombay increased last year by 40, making a total of 495, employing 212,637 persons; those in Madras increased by 6, making a total of 100, employing 43,108, while in the United Provinces the increase was 21, making a total of 154, employing 47,809. Commercial enterprises in India require vigorous development, according to English commercial standards. With the great extension of factories, the need of organising them on up-to-date systems has arisen, and any practical assistance is welcomed.

THE FRANCO-BRITISH EXHIBITION.

ON Thursday last, in the grounds of the Franco-British Exhibition at Shepherd's Bush, representatives of the most influential journals of Great Britain and France made an inspection of the buildings, etc., which are now in active course of preparation. After the inspection a luncheon was held, presided over by the Duke of Argyll.

The progress made with the constructional work of the Exhibition was summed up by Sir John Cockburn in responding to the toast of "Success to the Exhibition," in the phrase, "A whole city is arising before our eyes."

In a letter addressed to the Duke of Argyll, His Majesty the King expressed the pleasure with which he learned that the minimum sum necessary to guarantee the expenses had been subscribed, and commended to the support of the French and British people an exhibition having for its object the commercial prosperity of the two nations. His Majesty added that he sincerely hopes it may be the means of strengthening the friendship which so happily exists between them.

Trade Notes.

CANADIAN OILFIELDS.—The report for the year ended June 30 states that the profit and loss account, after payment of debenture interest, shows a disposable balance of £1,102., of which the directors propose to appropriate £250. towards writing off the formation account, and to place £750. to the credit of depreciation and reserve fund, leaving £102 to be carried forward. The accounts will not admit of the payment of a dividend on either the preference or the ordinary shares.

PROPOSED TRADE-MARK LAW IN SOUTH AMERICA.—The Buenos Ayres *Herald* publishes, in a recent issue, an article dealing with a movement to reform the present system of registering trade-marks. The journal says:—"The Liga de Defensa Commercial (League of Commercial Defence) has petitioned Congress to reform the Trade-Marks Act, with a view to preventing and punishing the frauds now being perpetrated under the existing law. The Liga limits its proposals to the three following fundamental points:—The fraudulent appropriation of established trade-marks; the registration of foreign trade-marks; the filling of recipients bearing a genuine trade-mark with spurious products. One of the amendments calls for the registration of a trade-mark only to those who can produce proof of being *bona-fide* manufacturers, tradesmen, agriculturists, or proprietors, and shall be denied to all persons not being any of these. Another proposed change is that a lapsed trade-mark cannot be re-registered within one year in those cases where the rightful owner has neglected to effect the new registration in proper time. Another important amendment makes it a crime to 'refill with spurious products recipients bearing a trade-mark pertaining to another owner, or to refill them with products that do not conform to the genuine products set forth in the trade-mark on said recipient, or to mix genuine products with others of a different or spurious kind, or to knowingly sell such spurious products in vessels bearing another's trade-mark, or mixed, etc.'"

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The Patent List

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Dyestuffs of the Oxazine Series. L E Vlies and Claus and Co. 24,330 November 4

Centrifugal Liquid Separators. E W. Richmond and R. A. Lister and Co., Limited. 24 357. November 4.

Treatment of Effluents. R. L. Allen. 24 381. November 4.

Metallic Calcium. S O Cowper-Coles. 24,376. November 4.

Gas Producers. E. Hall-Brown. 24,429 November 5.

Oil Filters. J. Schmidt and J. W. Perkin. 24 455 November 5.

Soap Moulding Machines. Crefelder Seifenfabrik Stockhausen and Traiser. 24,494. November 4.

Steam Superheaters. F J. Cole. 24,498 November 5.

Electric Furnaces H. Herronschmidt. 24,517. November 5.

Aluminium. E. A. O. Viel. 24 612. November 6.

Superheaters. W. Schmi t. 24,655 November 7.

Mellitic Acid. Read Holloway and Sons, Limited. 24,662. November 7.

Camphor Substitutes. H. S. Robertson and J R. Graham 24,763. Nov. 8.

Borneol from Isoborneol. Schmidtz and Co. G. m. b. H. 24,806. Nov. 8.

Electric Furnace. E. A. O. Viel. 24,807 November 8.

Separating Solids from Liquids. G Mitchell. 24,814 November 9.

Utilising Pyrites Cinder J. H. Thwaites. 24,847. November 9.

Cyanide of an Alkali Metal. F. W. Morris, J. B Raine, John Keer, and C. McLachlan. 24,864. November 9.

White Lead Production. F. W. Morris J. B. Raine John Keer, and C. McLachlan. 24 865. November 9.

Pure Chromium from Commercial Ferro-chromium. E. A. O. Viel. 24,875. November 9

Tanks Indicator for Liquids. W. H. Milde 24,883 November 9

Manure Products. C. N. Rüber 24,891. November 9.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Reclaiming Vulcanised Indiarubber. Gare. 19,894.

Fertilisers. Lehmann. 24,492

Mixing Fluids of Different Densities. Leiser. 25,108.

Compounds and Colouring Matters containing Sulphur. Johnson. 28,240.

Distillation and partial Dehydrogenation of Hydrocarbons. Soc. Anon. Des Combustibles Industriels. 28,689.

1907.

Salicylic Acid-glycerine Ester. Sorger. 3,367.

Removal of Arsenics from Liquids and Gases. Johnson. 3,435.

Oxygen and Nitrogen Compounds. Neuberger und Westdeutsche Thomas-Phosphat-Werke Ges. 9,939

Utilisation of Spent Nitric Acid. Calico Printers' Association and Warr. 15,087.

Soap Manufacture. Charlton. 16,448.

Derivatives of Gallo-cyanine. Farbwerke vorm. L. Durand, Huguenin and Co. 19,001.

Concentrated Acetic Acid Hydrate Solution from Dilute Acetic Acid Solution. Von Belatini. 20,125.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or connected with Methods of Chemical Analysis C. H Ridsdale, of Ferndale, Linthorpe, Middlesbrough September 26, 1906.

The inventor claims :—(1.) The process of preparing chemicals for use in analysis, which consists in taking reagents or groups of reagents in bulk and accurately weighing out and measuring them with mechanical precision into definite measures, blocks, tablets, or the like (those reagents not interfering with each other being supplied where practicable in the same tablet or group) in which each reagent or each group of reagents shall be in its requisite proportions relative to the others and to a given definite weight of the substance to be analysed to produce a given definite result with that definite weight of the sample of the material to be analysed. (2.) Reagents for analysis made in advance in definite quantities, each forming links in the chain of operations in the analysis to be performed, each being adjusted in relation to the others, and to a definite quantity of the substance to be analysed the solids being formed in tablets or the like in special quantities, and the liquids measured in special measures of the required size, adjusted for the amount of the measurement of the one definite quantity only, which is required, all being so proportioned as to produce definite results with a definite weight of the substance to be analysed. (3.) As an instance of the working of my process, the estimating of the amount of phosphorus in steel or other carbide of iron or body containing phosphorus, in the following manner :—To a given definite weight of steel or other body to be analysed, adding a measured quantity of nitric acid and hydrogen peroxide (previously mixed in bulk) from a special measure arranged to give a given exact quantity, being that quantity necessary to dissolve that particular given weight of steel or equivalent body, and leave the required excess of nitric acid, then adding the given amount of nitrate and chloride of ammonium formed into a pellet that is necessary for the satisfactory precipitation when using the said definite quantity of the material to be tested, then after boiling off the excess of oxygen precipitating by the ordinary method by the addition of molybdate of ammonium.

An Improved Process for Abstracting from a Liquid Gases dissolved therein. J F. P. Kestner, 7, Rue de Toul, Lille, France. British Patent, 1,843. Date claimed under International Convention, January 24 1906.

This invention consists broadly in bringing the liquid in an atomised state into intimate contact with atmospheric air or a gas other than that to be removed from the liquid. The inventor observes that if a small quantity of water in an atomised or very finely divided state resembling a fog or mist be intimately mixed in a recipient with a volume in excess of a gas soluble in water, the gas dissolves instantly in the water up to saturation point, which only varies with the temperature and the pressure under which the experiment is made. The water which will collect at the bottom of the recipient will be in this state of saturation. If, again, the soluble gas in question instead of being pure is mixed with a gas which is not soluble in water, and a small quantity of water is atomised in an atmosphere of this mixture, the water which will collect in the recipient will no longer be saturated, whatever be the excess of the gaseous volume. In following up these experiments it will be found that for each state of dilution of the soluble gas in the inert gas there is a corresponding state of saturation of the water which has been brought into contact therewith. Inversely, if an aqueous saturated solution of the gas in question is atomised in an atmosphere of this same gas at the same temperature, the solution which collects at the bottom of the recipient will be found not to have lost any gas, but to be in exactly the same state of saturation as it was before atomisation. But if the solution be atomised in an atmosphere consisting wholly of the inert gas, the solution after atomisation will be found to be saturated to a less extent, a certain proportion of the volume of gas having escaped and passed into the inert gas; and it will be observed that the greater the volume of inert gas in comparison with the volume of atomised water brought into contact therewith, the less saturated will be the aqueous solution remaining. For each relative proportion of atomised water and inert gas there is a corresponding state of saturation which is clearly defined and invariable, all things remaining equal otherwise. There evidently exists here a state of equilibrium analogous to that which is brought about when two solvents are placed in contact with a soluble substance, the two sharing in proportion to the masses in contact. The greater the mass of inert gas in the case in question relatively to the liquid mass, the less soluble gas will the liquid be able to retain.

The inventor bases on these facts a continuous process for the treatment of liquids by gases for the purpose of practically instantaneously abstracting from a liquid, by means of a gas, another gas, even if the latter gas is much more soluble than the first. For example, to remove from water in which they are dissolved such gases as ammonia, chlorine, or sulphuretted hydrogen, which are all very soluble in water, all that is necessary is to atomise the water in the presence of a very large volume of air. Volatile solid substances or volatile liquids, such as carbonate of ammonia, hydrocarbons and the like, can likewise be removed from water by the same process. Atmospheric air being very slightly soluble in water, takes here the role of the inert gas. The essential condition is that the volume of air be sufficiently great relatively to the volume of water. Taking as a specific example, the abstraction of ammonia from an aqueous ammoniacal solution, the invention may be readily carried out by atomising this solution by means of a Kestner

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centrifugal atomiser in a current of air. If, for example, the proportions of air and water be 180 volumes of air to 1 volume of ammoniacal water containing 2 grammes of ammonia per litre, it will be found that the ammoniacal water after purification does not contain more than 0.015 grammes of ammonia per litre, *i.e.*, 99.25% of ammonia has distilled and passed into the air, and on the other hand the water will not be saturated with dissolved air. If the proportions be 300 volumes of air to 1 volume of the same ammoniacal water, only about 5 milligrammes of ammonia will remain after atomisation. By passing this air over sulphuric acid, all the ammonia may be recovered in the form of sulphate, so that this process is practically a cold process for the recovery of ammonia contained in ammoniacal liquors. Numerous gases or volatile antiseptics are soluble in water, such as chlorine, the nitrous oxides, the phenols, formols, etc.; and, given as stated above that air employed in relatively great volume displaces soluble gases and volatile products from water, it will be seen that waters may be treated with these antiseptics without inconvenience. All that is necessary is to atomise the treated water with air in excess to the desired extent, in order to displace the antiseptic completely, or to leave in the water only such minute traces that they cannot be readily detected.

Method of Deodorising and Desulphurating Mineral Oils. G. H. Hellsing, Rabäck, Sweden. British Patent, 9,180. Date claimed under International Convention, April 30, 1906

Many mineral oils, natural as well as such obtained artificially by dry distillation from different raw materials, especially oils containing a large part of sulphur, have the disadvantage in refining that the products obtained give off a rank and disagreeable odour, from which it has been impossible, by the methods hitherto practised, to free them. On account of this odour being largely dependent on the presence in the oils of certain sulphurous organic compounds, it is also obvious that the sulphur contained in the oils will form a great obstacle to their use, especially so far as oils to be burnt are concerned.

The object of the present invention is to remove from this said kind of oils, by a simple procedure, the sulphurous malodorous matters. The method is based on the fact that salts of heavy metals, especially salts of copper, mercury, and cadmium, take up and absorb, when acting upon such oils, the kind of sulphurous organic compounds mentioned. The invention consists chiefly in treating the oil, at a certain stage of the refining, with a more or less concentrated solution of a metallic salt or metallic salts in water, for instance, by shaking the oil for some time with the solution. This mixing process can be performed in the same kind of apparatus and in the same manner as the treatment with acids and alkalies always forming an integral part of the refining of most raw mineral oils. In case other salts than chlorides of the metals are used for the treatment, preferably also an appropriate quantity of some chloride of alkali or of ammonium should be added to the solution. After treatment the oil is separated and the refining is continued in the usual way.

Improvements in or relating to Apparatus for Mixing Liquids and Gases. B. Leuschner, 29, Zahnsgasse, Dresden. British Patent, 5,189 March 4, 1907

This invention relates to an apparatus for intimately mixing liquids and gases of that kind in which the gas issues from a central pipe and the liquid from a vessel surrounding the pipe, the arrangement of the outlets from which the gas and liquid proceed being such that the jets of fluid travel in an oblique direction contrary to one another, so that a thorough mixture is insured. According to the present invention the passages for the egress of the gas and liquid are formed as slots situated in planes arranged obliquely relatively to the direction of flow of the substances. In this way not only complete independence as regards the shape of the mixing vessel is attained, but it is also possible, by the suitable arrangement and oblique position position of the inlet planes, to give the fluids any desired direction, and also to produce any desired number of bodies of fluid which, by a suitable choice of the inlet points, are preferably distributed in the mixing chamber in such a manner that one of the bodies of fluid moves in a direction contrary and against that of the other or others. In this way the mixture of the substances becomes still more thorough.

OLIVE OIL ADULTERATION IN SPAIN.—At a general meeting of producers of olive oil which was held recently in Madrid it was decided to suppress the mixing of oils from oleaginous seeds with olive oils intended for export.

RUSSIAN METALS.

THE *Torg. Prom. Gazeta* observes that in Russia such animation prevails in the copper smelting works as has rarely been known in the country. The recent high prices gave an impetus to the business, the results of which are only being realised now. The smelting of copper grows at an accelerated pace. The whole copper industry is becoming consolidated, and there is observed a tendency to combine in syndicates, and to emancipate the country from the domination of the foreign market by erecting electrolytic plants. The importation of copper into Russia is declining rapidly. For the first seven months of this year it amounted to only 200,000 poods (3226 tons), as compared with 520,000 poods (8,484 tons) in the corresponding period of last year, and 724,000 poods (11,077 tons) in 1905 (first seven months). On the other hand the export is becoming appreciable: thus in the first seven months of 1905 it was valued at £700, but the corresponding movement in 1906 was 600,000 poods (9,785 tons) valued at £8,300, and in 1907 it was 692,000 poods (11,080 tons) and £55,760.

The remarkable rise (about 20%) in the value of mercury leads a Russian correspondent to observe that when other metals were rising mercury was lifeless, but now it revives as other metals fall. He adds that no doubt the rumours about the proposed sale of Russia's only mercury works is connected with the improved market. The journal has the following note on this topic:—"The reports regarding the sale to a foreign company of A. A. Auerbach's mercury business in the village of Nikitoff, in the Bachmut district, are not devoid of foundation. As a matter of fact negotiations are being conducted with foreigners, and not long ago English capitalists visited the Auerbach factory with the object of thoroughly inspecting it. As to whether a transaction is likely, or how soon, is not yet known."

The *Uralsky Krai* observes that platinum continues distinctly on the decline. The Ekaterinburg agents who purchase for export are holding rigidly aloof. There has been no business in platinum on the local bourse for some time. The price for light platinum containing 83% metal is given at 5 roubles, 15 copecks per solotnik.

THE LABOUR MARKET.

THE Memorandum prepared by the Labour Department of the Board of Trade for the *Board of Trade Labour Gazette*, on the state of the labour market, states that employment in October was, on the whole, not quite so good as in September. There was a decline in the metal and engineering industries, but some improvement in the woollen and worsted trades and in the boot and shoe trade. Coal mining continued very busy, and the building trades dull. Compared with October, 1906, there was some decline in the building, and metal, engineering and shipbuilding trades, and an improvement in the textile trades, and in the boot and shoe trade.

In the 272 Trade Unions, with a net membership of 638,788, making returns, 30,079 (or 4.7%) were reported as unemployed at the end of October, 1907, compared with 4.6% at the end of September, 1907, and 4.4% at the end of October, 1906.

Trade Disputes.—Thirty-one new disputes began in October, as compared with 29 in the previous month, and 24 in October, 1906. The total number of workpeople affected by disputes, which began or were in progress during October, 1907, was 20,266, or 9,433 more than in September, 1907, and 8,094 less than in October, 1906. The aggregate duration of all the disputes of the month, new and old, amounted to 129,500 working days, or 57,400 more than in September, 1907, and 284,800 less than in October, 1906. Definite results were reported in the case of 27 disputes, new and old, directly affecting 2,975 persons. Of these 27 disputes, 10 were decided in favour of the workpeople, 10 in favour of the employers, and 7 were compromised.

Changes in Rates of Wages.—The changes reported in October affected 68,700 workpeople, of whom 68,200 received advances and 500 sustained decreases. The number whose wages were increased included over 41,000 coal miners in Northumberland, 8,000 blast-furnacemen in various parts of England and Wales, and over 7,000 building trade operatives in Liverpool and Birkenhead. The total computed effect of all the changes reported was a net advance of about £5,000 per week.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Nov. 20.
120,000	1	1	Bell's Asbestos ... ord	1⅞ 2
	Stock	100	Bo ax Consol 4½% deb. stock red	105 108
80,000	10	10	Do. 5½% cum. pref.	10¼ 10¼
1,356,477	1	1	Bradford Dyers ... ord.	23/3
1,50 ,000	1	1	Do. ... 5% c.p.	18/3 18/9
35,000	1	1	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	39/6
10,000	10	10	Do. ... 6% c p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	5 1/16
82 678	10	10	Do. 7% pref	15⅞ 16⅛
96,000	5	5	Bryant and May ... c.p.	12 12½
40.000	10	10	Buxton Lime Firms ord.	6 6½
352,500	5/	5/	Cassel Cyanide Co., Ltd. ,,	24/9
450,000	1	1	Castner Kellner ... ,,	27/-
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	6	3	Cleveland Salt ... 6% m p.	3 3½
20,000	10	10	Crosfield J , and Sons c p	9¼ 10
85,000	1	1	Fletcher, Russell, & Co. ord	28/- 28/6
5,000	10	10	Do. 6% c.p	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	91 92½
50,000	10	10	India Rubber Co. ... ,,	15
	5	5	Lagunas Nitrate ... ,,	2⅞ 3⅛
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	10¼ 10¾
200,000	10	10	Lever Bros. ... 5% c.p.	10½ 10¾
400,000	10	10	Manchester Ship Canal ord.	19/6 20/-
400,000	10	10	Do. per 5% pref.	29/6 30/-
120,000	1	1	Mandelberg ... ord	1⅜ 1⅝
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	8¼ 8¼
228,540	10	10	Nobel Dynamite Trust ,,	15 11/16
	10	10	Do. share warrants	15⅝
200,000	1	17/	Oakbank Oil, Ltd. ... ord.	37/-
	1		Pears, A. and F. ... ,,	1 7/16 1 9/16
70,000	10	10	Pease and Partners ... ,,	11½ 12
37,500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/	Pumpherston Oil, Ltd. ,,	12 6/16
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	62 62½
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
196,962	1	14/7	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	16/6 17/-
100,000	6	6	Do. ... 7% n.c.p.	4¼ 4⅜
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	⅝ ¾
	1	1	Schibaieff Petroleum ,,	3/32 5/32
£6,250,000	Stock	00	South Metropolitan Gas ,,	119 121
45,000	10	10	Steiner, F. and Co. 5% c.p.	9 9¼
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6½
289,343	10	10	United Alkali ... ord	74/-
282.524	10	10	Do. ... 7% pref.	10⅞ 11
80,000	1	1	United Indigo & Chemical ord	2/- 2/6
66,66	5	5	Willans and Robinson ,,	1 8/16 1 6/16
210,000	1	1	Woolc mbers .. 7% c.p.	19/- 19/6
113,202	4	4	Young's Paraffin ... ord.	69 9

COTTON-SEED OIL IN TURKEY.

"TURKEY presents a double possibility for the use of cotton-seed oil, in being both an olive-producing country and a Mohammedan nation, with whom the use of lard in cooking is forbidden. At the present time there appears to be some prejudice against the employment of this product," says United States Ambassador Weishman in a report to the State Department. "I recently heard that the natives of one of the islands of the archipelago had threatened to cut down their olive trees in case cottonseed oil should be admitted, without realising its utility to them as a wholesome adulterant, in the same way as the Italian olive growers have done. In order to correct such misapprehension and to spread a general knowledge of the advantages of this peculiarly American product as a cheap substitute for oil and butter, it would be of considerable advantage if a competent person could be sent here by the Cotton Seed Crushers' Association to thoroughly canvass the Turkish market."

Market Reports.

THE RUSSIAN CHEMICAL MARKETS.

The Kieff chemical report of October 31 states that for the preceding month the feeling of the market was firm, whilst carbolic acid, formalin, chloride of lime, and corrosive sublimate were very firm. The strong demand for disinfectants, in consequence of the cholera, quickly exhausted the stocks, and the local holders were obliged to send their renewal orders by telegraph for goods to be despatched by fast train. Of this the makers took advantage and raised the prices. Consequently, disinfectants early in the month rose high. The wholesale prices are quoted as follows:—Nitric acid, 40° B., 6 roubles 25 copecks; borax crystals, 5r. 40c.; white lead, 6r. 50c.; zinc white, 7r. 60c. glycerine, 29° B., 14r. 25c.; wood spirit, 10r.; chloride of lime, 3r. (as compared with 2r. 15c. in September); carbolic acid, in casks, 50°, 4r. (compared with 2r. 50c. in September); 100° 8r. (compared with 5r. 60c.); crystallised, 40-42°, 23r.; alum, 1r. 95c.; sulphate of copper (Swedish) 8r. 50c.; sal ammoniac (English) 7r.; Caucasian potash, 3r. 40c.; caustic soda, in casks of 20 poods, 3r. 40c.; calcined soda, in casks of 30 poods, 1r. 55c.; Berthollet salts, 12r. 80c.; citric acid, 49r. 75c.; tartaric acid, 29r.; corrosive sublimate, in powder and lumps, 3r. 50c.; Russian turpentine, 4r. 10c.; red lead, 6r. 25c.; sulphuric acid, 1r. 50c.; acetic acid, 80°, 10r.; formalin, 59r.; ether, 0.735-10 roubles—all per pood of 36 lbs.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols: 90's steady at 8¾d. to 9d.; 50-90's dull at 8½d. to 8¾d., casks included. Crude tar, 14s. 6d. to 18s. 6d. per ton, Thames; 1⅛d. to 1⅜d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 23s. 6d. to 24s., f.o.b.; Gas Company, 26s.; East Coast, 22s. 9d. to 23s. 3d.; West Coast, 22s. to 22s. 6d. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 10d. to 10½d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 5d. to 1s. 5½d.; 60%, 1s. 7¾d. to 1s. 8d.; 75%, 1s. 11¾d., casks included. Crystals, 39-40, 5⅛d.; 34-35, 4⅞d. to 5d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45% A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are:—Beckton, this year, £12. 5s.; next year, £12. 7s. 6d.; Beckton terms, £12. to £12. 2s. 6d.; London, £11. 18s. 9d. to £12.; Hull, £12. to £12. 2s. 6d.; Liverpool, £12. 1s. 3d. to £12. 2s. 6d.; Manchester, £12.; Leith, this year, £12. 5s.; next year, £12. 7s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s., and refined, 11s. 1½d. Official quotations:—Cargoes, off coast or due, 10s. 9½d.; ditto for prompt shipment, 11s. 1½d.

THE LONDON METAL MARKETS.

WEDNESDAY.

Copper: Standard brands, £58. to £58. 5s. cash, and for three months £57. 15s. to £58. Tin: G.M. quality, £135. 15s. to £136. 5s. cash, and £137. to £137. 10s. three months; English, £137; Banca, 87½fl. Lead: Soft foreign, prompt, £17. 15s.; December, £17.; January-Februray, £16. 15s.; English, £18. 5s. Spelter: Ordinary brands, November, £21. 5s., ex ship; hard, £17. 15s., f.o.b. Antimony, £36. to £38; crude, £25. to £27., c.i.f.; ore, £11. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £100. to £105. Wolfram, 35s. Pig-iron closing prices:—Cleveland, 51s. 1½d. cash; 49s. 10½d. one month; 49s. 6d. three months.

FERTILISER MATERIALS.

FRIDAY.

During the past week the market has been very quiet in all departments, but there is no material change in values.

No fresh transactions have transpired in mineral phosphates, but raisers seem more inclined to modify their views as regards prices.

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East Indian bone meal is not quite so firm, and for shipment £4. 17s. 6d. per ton, nett cash, c.i.f. Liverpool, would probably be accepted. On spot, £5. 2s. 6d. to £5. 7s. 6d. per ton, ex store, according to quality, is now quoted.

Nitrate of soda continues a dull market, but there has been no further decline in values, which remain 11s. and 11s. 1½d. per cwt., ex store Liverpool, for ordinary and refined quality, respectively, on spot.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

The markets are rather quieter, and there is only a moderate inquiry for any spot requirements. In the alkali trade, there is no alteration of any material importance as regards values. Bleaching powder is nominally £4. 5s. to £4. 7s. 6d., f.o.r. Caustic soda, 70%, £10. 5s. per ton, f.o.b. Liverpool. Alkali, 58%, £4. 10s. per ton, in bags, f.o.r. Soda crystals (bags), 55s. to 57s. 6d. per ton, f.o.r. There is good active demand for saltcake, and price is firm at 42s. 6d. per ton, carriage paid usual districts. Sulphate of copper is quiet, and the price stands at £21. 5s., f.o.b. Liverpool. Prices of vitriol and muriatic acids are advanced about 2s. 6d. per ton. Chlorates are unchanged, both for prompt and forward delivery, at 3½d. to 3¾d., according to quantity and other conditions. Acetate of lime is firm in price at £12. 5s., but acetic acids are rather more freely offered and prices are rather lower. Acetates of lead dull, and prices rather lower. For prussiates of potash and soda there is a steady demand. Ammonia salts are in good general request.

LIVERPOOL DRYSALTERIES.

WEDNESDAY.

Montreal potashes nominal, with a total absence of business and nothing offering. Pearl ash also nominal. Logwood steady, but with little demand. Cutch: Values maintained at recent values. Gum Arabic in good inquiry at recent values. Castor oil firm at 3⅝d. for good seconds Calcutta on spot, and 3¾d. for November-December; French, 3¾d. for first pressure, and 3½d. for second pressure. Gambier dull, with prices given for block at 23s. to 23s. 3d. per cwt. on quay; November-December shipment, 19s. 6d.; and December-January shipment, 19s. Cubes, 28s. 9d. to 29s. per cwt., on quay. Shellac steady: Fair TN orange, on spot, 125s. to 127s. 6d., and December-February shipment quoted 109s. Glucose firm: American liquid, 43%, 12s. 6d. on spot, and 12s. for November-December delivery; for prompt shipment, 10s. 1½d., and for November-December, 9s. 7½d., c.i.f., for shipment. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s. c.i.f., for shipment. Cream of tartar, 98% foreign powder, 88s. to 89s.; 95%, 86s. to 87s. Tartaric acid: English, 11½d. on spot, and foreign, 11d. Citric acid: English, 1s. 8½d.; foreign, 1s. 8¼d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil quietly steady at recent quotations, sales including Grand Bassa and Dix Cove on spot at £25. 10s., and Accra, on spot, at £26. 10s., both in transit. Linseed oil quiet, at 24s. 9d. to 26s. per cwt. for Liverpool makes in export casks. Cottonseed oil in fair demand at 25s. to 26s. per cwt. for Liverpool refined in export barrels. Tallow dull. Turpentine very firm, at 37s. 6d. per cwt. for spot parcels. Petroleum in fair demand at 7d. for Russian and Roumanian, and 7½d. to 8¼d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OILS.—The most important changes during the week have been an improvement of about £2. 10s. per ton in turpentine, and a relapse of 5s. per ton on cotton oil. Linseed oil continues steady, and no great changes are anticipated until the Argentine crop, due in about two months time, begins to arrive; the crop there is said to beat all previous records. Speculation is limited. Amongst the principal imports here to date, as against the same time a year ago, are:—Wheat 3,694,504 qrs., against 3,414,639 qrs.; flour 181,136 cwts.; linseed 718,451 qrs., against 518,363 qrs.; rapeseed 100,524 qrs., against 104,910 qrs.; cottonseed, Egyptian, 158,430 tons, against 136,291 tons; other kinds, 131,471 tons, against 109,522 tons; oilcake 23,466 tons, against 36,006 tons; hemp 118,677 cwts., against 143,425 cwts.; olive oil 3,786 tuns, against 3,423 tuns; tar 14,809 brls., against 13,153 brls. Amongst the weekly imports are:—Lard, 4,191 cwts.; margarine, 2,741 cwts.; sugar, 33,345 cwts.; hemp, 3,829 cwts.; colours, 1,357 pkgs.; wool, 365,660 lbs.; hides, 1,084 cwts. Exports:—Oil, 10,419 cwts.; colours, 2,019 pkgs.; chemicals, 2,164 pkgs. Linseed oil, 22s. 6d., spot and month, naked; November-December, 22s. 6d.; January-April, 21s. 3d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week:—1 ton Belgium, 7 France, 12 Germany, 4 Norway; total, 24 tons. Refined cotton oil, 22s., spot and month; November-April, 22s. 3d., naked; casks £1., and barrels £1. 7s. 6d. per ton extra. Exports:—59 tons Belgium, 9 France, 64 Germany, 95 Holland, 2 Norway, 18 Sweden; total, 247 tons. Linseed market weaker. Indian seed 3d. weaker and La Plata 6d. dearer. Rapeseed quiet; present high prices check sales. Cottonseed: Small business passing at slightly lower prices; December shipment selling at £7. 1s. 3d. Turpentine strong, 38s. 6d. spot. Rosins unchanged. Russian turpentine again dearer. Olive oil unchanged. Castor oil firm, but no business passing.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, WEDNESDAY.

A steady firmness is the rule in the paraffin and mineral oil section, with exceptional strength in burning oils of home make the Scottish manufacturers having collectively decided to exact, for all new business, one farthing per gallon over the season's contract figures, as given below. This makes the special quality 7d. per gallon, and the ordinary 6¾d. to 6¼d., respectively. Sulphate of ammonia, spot business, f.o.b. Leith, is the least shade easier, at £12. 5s., with still nothing recorded in forward dealing. Sulphate of copper again very uncertain, due to metal market vagaries. Colour chemicals and drysalteries still lean to the easy side. The calico printers are no better off, and the dyers also could do with more of movement. Bichromates are steady at the old figures, for both potash and soda. In the heavy chemicals the only notable change is a slightly increased inquiry for forward. Values remain as before.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3½d. to 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¼d. to 2½d., naked, f.a.s. Glasgow; nitrate of soda 11s. 1½d.; paraffin scale, hard, 2d. to 2½d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £21. less 5% Liverpool, prompt.

TYNE CHEMICAL REPORT.

THURSDAY.

Market quiet, and prices unchanged. Soda crystals, locally, £3. to £3. 2s. 6d. per ton, gross weights. Caustic soda, 70%, £9. 15s., and 76-77% £10. 10s. per ton. Bleaching powder, £5. to £5. 5s. per ton. Sulphur firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per

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ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £6. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market is rather easier, with lower quotations, and while the best collieries are well booked for this and next month, the outlook for next year seems to point to lower prices. Coke remains quiet. To-day's prices: Best Northumbrian steam, 15s. 3d. to 15s. 6d. per ton; second qualities, 14s. to 14s. 6d. per ton; small steam, 9s. 3d. to 10s. 3d. per ton; best gas coals, 15s. to 15s. 6d. per ton; Durham bunker coals, 11s. 9d. to 12s. 6d. per ton; coking coals, 13s. 6d. to 14s. per ton; household coals, 16s. to 17s. per ton; foundry coke, 19s. to 20s. per ton; gas coke, 19s. per ton.

New Companies.

Oils, Fats, and Waxes, Ltd.—Capital £2,025., in 1,000 10% cumulative preference and 1,000 ordinary shares of £1. each, and 500 deferred shares of 1s. each. This company has been formed to acquire the exclusive right to the process for refining, decolouring and deodorising oils, fats and waxes, invented by J. K. Field to develop and turn to account the same, and to adopt an agreement with J. K. Field, E. W. J. Trevor and J. Doull. No initial public issue. The subscribers are to appoint the first directors. Remuneration, £50. each per annum (chairman £75.). Registered office, 40, Dover-street, Piccadilly, W.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Bailoons.	Chys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.					lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Btls.	Bottles.	Cyls.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dns.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns. Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending November 7.

Acetic Acid
- Holland, 25 cks. R. W. Greeff & Co.
- ,, 13 W. H. Muller
- ,, 25 blns. & Co.
- Belgium, 25 cks. Petri Bros.

Alumina Sulphate
- Holland, 250 Little & Johnston
- ,, 1 t. 9 c. ,,

Ammonium Muriate
- Holland, 6 t. H. Lorenz

Ammonium Oxalate
- Germany, 115 J. Barber & Co.

Antimony Ore
- Belgium, 2 t. G. Smith & Son
- Canada, Atl., 5 H. Merton & Co.

Antimony (Regulus)
- N.S.W., 11 t. Leach & Co.

Antimony Salts
- Germany, 27 Argo S.S. Co.

Argols
- Italy, 165 bgs. R. Jacob & Sons
- Spain, 173 Thomas S. T.
- ,, 174 cks. & L. Co.
- Italy, 65 ,,
- Spain, 661 R. W. Swonnell

Arsenic
- Spain, 119 Charles & Fox
- Portugal, 45 Hicks Bros.

Barytes
- Belgium, 100 bgs. Taylor Bros.
- ,, 195 cks. J. D. Field
- ,, 21 O'Hara & Hoare
- Germany, 117 W. Harrison
- ,, 160 bgs. & Co.
- Holland, 201 Z. Cartwright
- ,, 132 cks. ,,

Bleaching Powder
- Germany, 15 t. J. M. Steel & Co.

Calcium Carbide
- Sweden, 55 t. Acetylene Corp. of Gt. Britain
- ,, 55 Imperial Autogen. Light Co.
- ,, 11 Elephant Carbide Co.
- ,, 10 Stamford, Boston Bank Co.
- ,, 5 Lee, Tebbs & Wilkinson

Camphor
- China, 100 cs. R. Warner & Co.
- Germany, 50 L. & I. D. Jt. Co.

Caoutchouc
- France, 11 c. L. & I. D. Jt. Co.
- Germany, 3 France, Fenwick & Co.
- ,, 10 Lawrence, Boustead & Co.
- ,, 2 t. 1 Hoare, Wilson & Co.
- ,, 1 6 S. Figgis & Co.
- Ceylon, 3 P. & O. S. N. Co.
- ,, 13 Lewis & Peat
- ,, 18 Rowe, White & Co.
- ,, 1 Props. Hay's Wf.
- Straits, 5 5 ,,
- E. Indies, 3 5 ,,
- ,, 1 9 Rowe, White & Co.
- Ceylon, 48 L. & I. D. Jt. Co.
- E. Indies, 2 10 Props. Bull Wf.
- Straits, 1 19 M. P. Evans & Co.
- Germany, 1 18 L. & I. D. Jt. Co.
- ,, 6 3 Hare & Son
- ,, 7 Clarke & Smith
- Straits, 12 12 Boustead & Co.
- Ceylon, 16 Dixon & Co.
- France, 1 L. & I. D. Jt. Co.
- Germany, 2 2 Craven & Co.
- Straits, 3 15 Peaks, Bull Wf.
- France, 1 S. Figgis & Co.
- Straits, 5 16 L. & I. D. Jt. Co.
- Ceylon, 2 W. M. Smith
- ,, 3 Brenner & Laycock

Carbolic Acid
- Canada, 61 dms. Furness, Withy & Co.
- Holland, 50 cks. J. Owen

Castor Oil
- France, 2 cks. 5 cs. L. & I. D. Jt. Co.

Caustic Potash
- Belgium, 7 dms. Luke & Bailey
- U.S.A., 1 Lunham & Moore
- Germany, 30 W. Harrison & Co.

Chemicals (*otherwise undescribed*)
- Belgium, 47 J. Cockerill Line
- ,, 9 Leach & Co.
- ,, 10 T. H. Lee
- Holland, 93 J. Barber & Co.
- ,, 20 R.W. Greeff & Co.
- Germany, 20 ,,
- ,, 142 T. H. Lee
- ,, 193 A. & M. Zimmermann
- ,, 15 Domeier & Co.
- ,, 106 A. & M. Zimmermann
- U.S.A., 400 B. & F. Wf. Co.
- Germany, 17 Argo S.S. Co.
- ,, 11 London & Rhine S. Office
- ,, 23 L. & I. D. Jt. Co.
- Holland, 68 W. H. Muller & Co.

Coal Products
- Germany, 4 cks. 4 cs. L. & I. D. Jt. Co.
- Holland, 3 Skilbeck Bros.
- Belgium, 15 pks. J. Cockerill Line
- Germany, 2 kgs. T. Boecker & Co.
- Belgium, 9 kgs. Friend & Co.
- Holland, 3 cks. W. H. Muller & Co.

Pitch
- France, 115 cks. Hill & Sons
- Sweden, 215 brls. Cook & Co.
- Norway, 118 Fellows, Morton & Co.

Tar
- N. Russia, 50 pps. Linck, Moeller & Co.
- Sweden, 150 brls. ,,
- N. Russia, 173 cks. P. J. Daniss
- ,, 51 hf-cks. chewsky
- ,, 137 brls. London Oil Storage Co.
- ,, 100 Dussek, Bros.
- ,, 51 hf-brls. & Co.
- ,, 100 brls. Worringham & Co.
- ,, 47 hhds. Linck, Moeller & Co.

Colours
- Germany, 22 pks. Argo S.S. Co.
- Holland, 4 cs. W. H. Muller
- ,, 4 brls. & Co.
- ,, 4 cks. 3 cs. T. H. Lee

Colours
- Holland, 9 cks. Felton & Crepin
- Belgium, 2 J. Cockerill Line
- Germany, 1 London & Rhine S.S. Co.
- France, 6 cs. L. & I. D. Jt. Co.
- ,, 4 brls. Suter, Hartmans & R. C. Co.
- Germany, 10 cks. T. H. Lee
- ,, 6 brls. Hall & Hall
- ,, 10 cs. Argo S.S. Co.
- ,, 1 ck. H. Johnson, Sons & Co.
- Belgium, 4 Burrell & Co.
- ,, 58 pks. J. Cockerill Line
- Denmark, 5 cs. L. & I. D. Jt. Co.
- U.S.A., 32 Lunham & Moore
- Holland, 4 cks. W. Harrison & Co.
- ,, 2 cks. C. Atkins
- ,, 12 cs. & Nisbet
- ,, 2 cks. ,,
- Germany, 21 L. & I. D. Jt. Co.
- ,, 3 cs. ,,
- E. Indies, 3 P. & O. S. N. Co.

Copper Ore
- Victoria, 1 t. Wainwright, Bros. & Co.

Corundum Ore
- E. Indies, 4 t. L. & I. D. Jt. Co.

Cream of Tartar
- Holland, 82 cks. A. & M. Zimmermann
- ,, 20 kgs. Kirkpatrick, Barr & Co.
- Belgium, 11 cks. B. & F. Wf. Co.
- France, 15 W. C. Bacon & Co.
- ,, 13 B. & F. Wf. Co.
- ,, 40 kgs. ,,
- ,, 8 cks. L. & I. D. Jt. Co.

Disinfectants (*otherwise undes.*)
- France, 25 T. H. Lee
- Germany, 90 London & Rhine S.S. Co.

Dyestuffs

Annatto Extract
- U.S.A., 7 brls. Fielder, Hickman & Co.

Bark Extract
- France, 100 cks. B. & F. Wf. Co.

Cutch
- Straits, 50 cs. Borneo Co.

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Dyestuffs—

Divi Divi

Ceylon,	187 t.	Beresford & Co.
E. Indies,	7 bgs.	Perlbach & Co.

Dyewood Extract

France,	11 cs.	T. H. Lee

Gambier

Straits,	76 bgs.	W. Pope & Co.
,,	156	L. & I. D. Jt. Co.
,,	19 brls.	P. & O. S. N. Co.

Indigo

France,	10 chts.	Parsons & Keith

Myrabolans

E. Indies,	400 bgs.	Morison, Pollexfen & Blair
,,	216	E. J. Winser & Co.

Myrabolan Extract

E. Indies,	690 bxs.	Dalton & Young

Oakwood Extract

France,	200 cks.	Levinstein & Co.

Saffron

Spain,	2 cs.	Nicholson's Wvs.

Tanners' Bark

U.S.A.,	4 c.	J. C. Mount & Co.
Natal,	39 t.	Hoare, Wilson & Co.
,,	2	J. Greig
,,	132	J. T. Rennie, Son & Co.

Tanners' Extract

Canada, A.,	109 cks.	Hoare, Wilson & Co.

Valonia

A. Turkey,	25 t.	T. J. & T. Powell
,,	10	Adam Bros.
,,	10	Boutcher, Mortimore & Co.

Earth Colours—

Holland,	17 cks.	C. S. Lovell & Sons
,,	76 pks.	W. H. Muller & Co.
Germany,	12	Taylor Bros.

Farina—

Holland,	5 t.	J. Barber & Co.
,,	22	17 c. T. M. Duche & Sons
,,	10	Burgoyne & Co.
,,	5	W. H. Muller & Co.
,,	2	Hernu, Peron & Co.
,,	9	17 T. M. Duche & Sons

Glue—

Holland,	£89	Hernu, Peron & Co.
France,	13	W. H. Muller & Co.
U.S.A.,	320	W. Davis
Belgium,	120	L. & I. D. Jt. Co.
,,	176	T. M. Duche&Son
N. Russia,	5	Venesta, Ld.
,,	350	J. Grey
France,	600	L. & I. D. Jt. Co.
Holland,	150	J. Barber & Co.
France,	44	Mory & Co.
,,	48	Duche & Sons
,,	30	T. H. Lee
Holland,	30	O. Lechla
Belgium,	320	Duche & Sons
,,	91	J. Harrison, Ld.
N. Russia,	395	London & Rhine S. Office
Belgium,	200	Duche & Sons
,,	100	A. Price & Co.
Germany,	20	Johnson, Son & Co.
France,	150	L. & I. D. Jt. Co.
Holland,	14	W. H. Muller & Co.

Glue Stock—

N.S.W.,	13 t.	4 c. Goad, Rigg & Co.
France,	2	16 B. & F. Wf Co.

Glycerine—

Holland,	420 kgs.	J. Barber
	£72	& Co.
,,	39	Fuerst Bros.
Germany,	50	Bennett's H. Co.
,,	67	Prop. Hay's Wf.

Iron Ore—

A. Turkey,	240 t.	F. Strick & Co., Ld.

Lead Nitrate—

France,	£30	W. J. Crook

Lead Ore—

Italy,	12 t.	J. Cripps

Lithopone—

Holland,	20 cks.	Gross, Sherwood & Co.
,,	100	A. Zumbeck & Co.
,,	40	J. L. Lyon & Co.
,,	80	Felton & Crepin
Belgium,	8	Lyon & Co.

Magnesite—

Holland,	£22	J. Barber & Co.
,,	14	A. Man
,,	16	W. H. Muller & Co.
,,	5	United Shipping Co.

Manganese Ore—

E. Indies,	250 t.	Mercantile Ltge. Co.
Belgium,	20	Union Ltge. Co.
Germany,	2	Drolenvaux & Bremner

Manganesite—

Germany,	£62	Argo S.S. Co.

Manure—

Germany,	£50	Berk & Co.
Italy,	1 t.	Hunter, Lomer & Co.

Mercury Oxide—

A.-Hung.,	£360	C. Tchaperoff

Olive Oil—

France,	40 gals.	Trapp & Sons
,,	112	Johnson, Sons & Co.
Italy,	50	Andrea Caliendo
France,	28 tuns 6	L. & I. D. Jt. Co.
,,	1 110	Gill & Duffus
France,	2	Litchfield & Soundy
,,	2	Mory & Co.
,,	8	Johnson, Sons & Co.
,,	81	Dakin & Co.
Belgium,	12	J. Cockerill Line

Oxalic Acid—

Holland,	7 cks.	R. W. Greeff & Co.

Paraffin Scale—

U.S.A.,	26 t.	6 c.	H. Hill & Sons

Paraffin Wax—

Germany,		2 c.	B. & F. Wf. Co.
,,		12	T. H. Lee
Holland,	40 t.	1	Leach & Co.
,,	14	9	Mordaunt Bros.
U.S.A.,	3	10	Van Dam & Co.

Phosphate—

Belgium,	100 t.	McCaul & Co.

Phosphate Rock—

U.S.A.,	3,200 t.	J. B. West & Co.

Plumbago—

Ceylon,	659 bgs.	G. R. Haller
,,	56 brls.	Hall & Co.
,,	35	G. & H. Green
,,	315 bgs.	,,
U.S.A.,	30 brls.	Scotney & Earnshaw
Ceylon,	255	Thredder, Son & Co.
,,	39	Branwell & Co.
,,	420 bgs.	G. R. Haller
Germany,	10 cks.	R. Ulrich
Ceylon,	4 brls.	L. & I. D. Jt. Co.
Aust.-Hung.,	6	United S. Co.
Ceylon,	276 bgs.	Marshall & French
Germany,	2 cs.	

Potassium Carbonate—

Canada,	8 cks.	Charles & Fox
Germany,	10	Skilbeck Bros.
,,	10	Petri Bros.
,,	10	L. & I. D. Jt. Co.

Potassium Chlorate—

Germany,	100 pks.	H.G. Thomas
Sweden,	35 kgs.	G. Boor & Co.

Potassium Meta-bisulphite—

Holland,	£30	Van Dam & Co.

Potassium Oxalate—

Holland,	£138	W. H. Muller & Co.

Potassium Permanganate—

Germany,	20 kgs.	C. Zimmermann & Co.

Red Lead—

Germany,	39 cks.	J. D. Budd
Holland,	23	Van Dam & Co.
,,	46	F. T. H. Nye
,,	8	A. & M. Zimmermann
,,	16	Pinchin, Johnson & Co.

Rosin—

France,	9 cks.	Harrison & Co.
,,	30	Watt & Son
U.S.A.,	200 brls.	J.H. Ellisdon
,,	200	Rosin & Turp. Impt. Co.

Salammoniac—

Holland,	£162	A. & M. Zimmermann

Saltpetre—

Germany,	40 t.	2 c.	Hecker & Co.
E. Indies,	93		Lucas & Spencer's Wf.
Germany,	1	10	L. & I. D. Jt. Co.

Soap—

U.S.A.,	£107	W. Davis
France,	48	Mory & Co.
,,	86	Beresford & Co.
,,	175	Pronk, Davis & Co.
Belgium,	30	D. C. Thomas & Sons
U.S.A.,	52	Wright, Kerr & Co.
,,	13	F. Still
,,	195	Thames S. Tug & Ltge. Co.
U.S.A.,	72	Lunham & Moore
,,	260	Butler & Crispe
,,	108	Field & Co.
Germany,	8	L. & I. D. Jt. Co.
Holland,	31	W. H. Muller & Co.

Soda—

Belgium,		18 c.	A. & M. Zimmermann
Germany,	5 t.		Petri Bros.
,,		10	T. H. Lee
,,		8	A. & M. Zimmermann
France,	2		J. M. Steel & Co.
Germany,		6	A. & M. Zimmermann
,,		10	London & Rhine S. Office

Soda Crystals—

Holland,	10 t.	Little & Johnston

Sodium Acetate—

France,	10 t.	J. Harrison

Starch—

Holland,	8 t.	10 c.	J. Barber & Co.
U.S.A.,	3	7	T. L. Field & Co.
Holland,	2	7	W. H. Muller & Co.
,,		14	Hernu, Peron & Co.
,,	76		Bennett's Hge. Co.
,,	75		Little & Johnston
France,	17	13	A. C. Hitchcock
Holland,	10		Henderson, Craig & Co.
,,	30		Pickfords, Ld.
,,	2	4	J. Harrison
,,	11	3	J. Barber & Co.

Stearine—

Belgium,	4 pks.	J. Cockerill Line
Holland,	63 bgs.	J. Owen
,,	63	G. Jennings
Belgium,	63	,,
Holland,	8 cks.	Suter, Hartmann & R.C. Co.

Sulphur—

Italy,	500 t.		T. Swan
,,	5		G. Boor & Co.
,,	4	10 c.	Fuerst Bros.
,,	20		London Welsh S.S. Co.
,,	10		Sheppy Glue & Chem. Wks.
,,	25		A. Zumbeck

Sulphur Chloride—

Germany,	£63	Typke & Kin

Sulphuric Acid—

Belgium,	200 t.	Anglo-Cont. Guano Co.

Talc—

France,	£77	Blackwell, Sons & Co.

Tallow—

N.S.W.,	107 cks.	A. J. H.
,,	50	Cuthbert & Hall
,,	296	Phillipps & Graves
Victoria,	120	,,
Arg. Rep.,	118	,,
,,	111	Thornett & Fehr
,,	383	G. F. Took
U.S.A.,	59	W. H. J. Alexander
Victoria,	46	Lampson & Co.
,,	3 pps.	,,
N.S.W.,	14 cks.	J. Greig
,,	44	Maritime Ltge. Co.
,,	72	Concordia Wf.
Holland,	1	J. Owen
N. Zealand,	69	L. & I. D. Jt. Co.
,,	96	Humphery & Co.
France,	65 bgs.	C. F. Took
U.S.A.,	2 cks.	Woollest, Airey & Co.
Arg. Rep.,	134	Phillipps & Graves

Tannic Acid—

Holland,	5 cs.	W. H. Muller & Co.

Tantalite Ore—

Straits,	2 t.	R. Warner& Co.

Tartaric Acid—

Holland,	69 cks.	B. & F. Wf. Co.
,,	1	Van Dam & Co.
,,	1	F. C. Devon & Co.

Thorium Nitrate—

Germany,	£225	Argo S.S. Co.

Tin Ore—

Spain,	32 t.	Boundy, Krieger & Co,

Turpentine—

France,	150 brls.	J. Watt & Son
N. Russia,	50	Goodlake & Nutter

Ultramarine—

Holland,	10 cs.	W. H. Muller
	5 pks.	& Co.
Belgium,	3	J. Cockerill Line
Germany,	17 cks.	L. & I. D.
	3 cs.	Jt. Co.
Holland,	5	A. Foley & Co.
Germany,	5 cks.	Argo S.S. Co.
	3 cs.	,,
Holland,	5	A. G. Soutter & Co.

Wax—

Aden,	50 bgs.	Perlbach & Co.
Germany,	12	L. & I. D. Jt. Co.
,,	21	London & Rhine
,,	100 cs.	S. Office
,,	29 pks.	Cook & Co.
Morocco,	11	Forwood, Bros. & Co.
Germany,	68 bxs.	T. H. Lee
,,	2 cs.	,,
,,	2	Hale & Son
,,	13 bgs.	L. & I. D. Jt. Co.
,,	29	Clarke & Smith
,,	49 pks.	Wallace Bros.
Spain,	15 brls.	Lewis & Peat
France,	28	L. & I. D. Jt. Co.
,,	25 cs.	W. M. Smith & Co.
Germany,	10 crts.	Craven& Co.
Aust.-Hung.,	2 brls.	C. Tchaperoff
E. Indies,	9 cs.	G. & H. Green
Germany,	3 bgs.	L. & I. D. Jt. Co.
France,	1 pk.	J. W. Cook & Co.
Belgium,	10 dms.	D. C. Thomas & Sons
E. Indies,	15 cs.	L. & I. D. Jt. Co.
Japan,	25	G. & H. Green
Holland,	10 bgs.	W. H. Muller & Co.

White Lead—

Belgium,	82 cks.	J. L. Lyon & Co.
France,	40 brls.	J. Watt & Son

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White Lead—
U.S.A., 70 cks. Fenner, Alder & Co.
Germany, 51 Taylor Bros.
,, 11 J. Barber & Co.
,, 53 Burrell & Co.
,, 41 W. A. Rose & Co.
U.S.A., 102 brls. Taylor Bros.
France, 1 A. C. Hitchcock
Germany, 5 cks. Randall Bros.
Holland, 2 W. H. Muller & Co.
,, 66 A. & M. Zimmermann
Belgium, 47 G. Farmiloe & Son

Wolfram Ore—
Straits, 2 t. Major & Field

Zinc Oxide—
Holland, 35 cks. Felton & Crepin
,, 70 M. Ashby, Ld.
Germany, 10 R. W. Greeff & Co.
Holland, 100 brls. M. Ashby, Ld.
,, 15 cks. F. T. H. Nye
,, 200 Litchfield & Soundy
Germany, 25 F. T. H. Nye
,, 32 pks. Argo S.S.Co.
,, 10 cks. W. Ostermann & Co.

Zinc White—
Germany, 175 cks. Spies, Bros. & Co.
Holland, 10 W. H. Muller & Co.

LIVERPOOL.

Period ending November 9.

Acetate of Lime—
Portland, 6,446 bgs. United Alkali Co.

Argols—
Oporto, 21 cks.

Asbestos—
Barcelona, 1 bg.

Barium Sulphate—
Antwerp, 71 cks.

Barytes—
Antwerp, 10 cks.

Beeswax—
Conakry, 7 trs.

Bismuth Ore—
Sydney, 23 sks.

Bone Ash—
B. Ayres, 838 t.

Bones—
Lisbon, 230 bgs.

Borate of Lime—
Mejillones, 8,716 sks. Borax Consolidated Co.

Boric Acid—
Hamburg, 20 cks.

Caoutchouc—
Malta, 8 pks.
Havre, 4 cks.

Chemicals (*otherwise undescribed*)
Rouen, 1 ck. Co-op. W'sale Society

Colours—
Rotterdam, 14 pks.
Amsterdam, 2 brls.
Hamburg, 2 cs.

Copper Ore—
A'fagasta, 6,399 bgs. Mitrovich Bros.
Callao, 997 sks. J. Shaw & Sons
,, 309 A. Hirsch & Sons
,, 562
,, 570 Steinhardt
,, a qty. & Walker
,, ,, Duncan, Fox & Co.
,, ,,
Singapore, 5,394 bgs.
Barcelona, 125 R. B. Watson & Co.
Lisbon, 150 t.
Mollendo, 755 sks.
Mejillones, 8,716

Cottonseed Oil—
Forcados, 2 brls.
N. Orleans, 850
New York, 100

Cream of Tartar—
Rotterdam, 4 cks.
Marseilles, 21 brls.
Barcelona, 18
Bordeaux, 61

Dried Blood—
B. Ayres, 500 bgs. J. Nelson & Sons, Ld.
,, 1,267

Dyestuffs—
Cutch
Batavia, 630 cs.
Rangoon, 250 bxs.
Dyewood Extract
Philadelphia, 25 brls.
Myrabolans
Bombay, 620 bgs. E. D. Sassoon & Co.
,, 590 W. & R. Graham & Co.
,, 2,001
Oak Extract
Fiume, 416 brls.
Quebracho Extract
B. Ayres, 8,934 bgs.
Sumac
Alexandria, 48 bgs.
Tannin Extract
Bastia, 1,100 brls.
Bordeaux, 375 cks.
,, 366 R. J. Francis & Co.
Valonia
Vostizza, 1 bg.

Farina—
Stettin, 100 bgs.

Ferro Silicon—
Antwerp, 150 bgs.

Glue—
Marseilles, 20 brls.
Boston, 15

Glue Stock—
Sydney, 13 brls.
Marseilles, 375 bgs.

Glycerine—
River Plate, 50 dms. Fry, Miers & Co.
Rotterdam, 40

Gold Ore—
New York, 4 bxs. Royal Mail S.P. Co.

Iron Ore—
New York, 65 bgs. G.W. Sheldon & Co.

Lactic Acid—
Rotterdam, 28 cks.

Lead Acetate—
Rotterdam, 6 cks.

Lithopone—
Rotterdam, 8 cks.

Ochre—
Rouen, 45 cks. Co-op. W'sale Society
Marseilles, 83
Valencia, 300 bgs.

Olive Oil—
Marseilles, 409 cs. 556 bkts.
Bordeaux, 71

Oxalic Acid—
Rotterdam, 5 cks.
Hamburg, 9

Paraffin Wax—
Amsterdam, 350 bgs.
Rangoon, 400

Phosphoric Acid—
Antwerp, 1 ck. J. T. Fletcher & Co.

Phosphorus—
Montreal, 200 cs.

Potash—
Hamburg, 42 cks.

Potassium Muriate—
Hamburg, 3,000 bgs.

Red Lead—
Rotterdam, 10 cks.

Rosin—
N. Orleans, 250 brls.
Lisbon, 101 435 cs.
Bordeaux, 12 cks.

Rubber—
Warri, 102 pks. J. Holt & Co.
Forcados, 6 H. B. W. Russell & Co.
,, 10 Taylor Bros.
Benin, 55 A. Miller, Bros. & Co.
Pernambuco, 7 brls.
Natal, 17

Rubber—
Benin, 1 pk. Benin River Prod. Co.
Koko Beach, 4 H. Bey & Co.
Saltpond, 2 Millers, Ld.
,, 3 F. & A. Swanzy
,, 2 cks. African Assoc., Ld.
,, 3 H. B. W. Russell & Co.
,, 6 J. J. Fischer & Co.
Assinee, 37 Cie Française deK
,, 3 Paget, Digby & Co.
Gd. Bassam, 4 Olivier & Co.
,, 34 Cie Francaise, etc.
Sierra Leone, 2 Pickering & Berthoud
,, 5 P. Ratcliffe & Co.
Conakry, 7
,, 14 H. Diaper & Son
,, 32 Paterson, Zochonis & Co.
,, 7 Broadhurst, Sons & Co.
,, 9 J. Walkden & Co.
Sierra Leone, 4 R. & W. King
Valparaiso, 15 brls. Hainsworth Watson & Co.
,, 73 J. H. Schroder & Co.
New York, 30 pks. W. Symington & Co.
,, 11 Leach, Harrison & Co.
Manaos, 1,263 cs.
Para, 756
Montreal, 4 Public B. B. Co.
,, 12 Rhodes, R. & Shaw
Lisbon, 221 bgs.
Bordeaux, 6 cks. 10
New York, 10
Burutu, 530 pks. Niger Co., Ld.
,, 1 G. W. Christian & Co.
Lagos, 4
,, 1 A. Miller, Bros.
,, 2 W. B. McIver & Co.
,, 1 J. Holt & Co.
Cape Coast, 2 African Assoc.
,, 7
,, 1 F. & A. Swanzy
,, 1 H. B. W. Russell
Sekondi, 15 Millers, Ld.
,, 20 F. & A. Swanzy
,, 29 J. J. Werner
,, 1 H. B. W. Russell & Co.
,, 18
,, 6 J. J. Fischer & Co.
,, 1 African Assoc.
Axim, 1 cs. R. Hamilton & Co.

Saltpetre—
Hamburg, 104 kgs.

Salt (Waste)—
Hamburg, 140 t.

Silver Ore—
Callao, 808 sks. Banco Aleman Trans.
,, a qty.
,, ,, Steinhardt, Walker & Co.
,, ,, Duncan, Fox & Co.
Antofagasta, 59 sks.

Soap—
N. Orleans, 1,164 brls.
Marseilles, 10 cs. Evans & Co.
,, 5 J. H. & S. Johnson
,, 27
Bari, 42
Boston, 30 T. Boader
,, 45 pks.

Soapstone—
Genoa, 370 bgs.

Sodium Nitrate—
Antofagasta, 11,359 bgs.

Starch—
Rotterdam, 100 cs.
Antwerp, 202

Stearine—
Antwerp, 13 bgs.

Tallow—
Phila'phia, 205 trcs.
Boston, 100 195 brls.
New York, 255 Swift & Co.
,, 162
Boston, 200

Tallow—
Sydney, 277 cks. Co-op. W'sale Society
,, 100 Bk. N.S.W.
B. Ayres, 863

Tin Ore—
A'fagasta, 5,488 bgs.

Turpentine—
Rotterdam, 5 cs.

Ultramarine—
Rotterdam, 20 cks.

Wax—
Baltimore, 350 brls.

White Lead—
Rotterdam, 6 cks.

Wolfram Ore—
Antofagasta, 31 bgs.

Zinc Ore—
Barcelona, 24 cks. Higginbottom & Co.

Zinc Oxide—
Rotterdam, 25 cks.
New York, 950 brls.
Antwerp, 40

Zinc White—
Rotterdam, 4 cks.

MANCHESTER.

Week ending November 9.

Acetic Acid—
Rotterdam, 19 cks. 42 blns.

Ammonia—
Philadelphia, 25 cbys.

Antimony Lactate—
Hamburg, 10 cks.

Antimony Salt—
Rouen, 11 dms.

Asbestos—
Genoa, 120 bls.
Montreal, 400 bgs.
Quebec, 4,720

Barium Chloride—
Rotterdam, 12 cks.

Chemicals (*otherwise undescribed*)
Genoa, 8 brls.
Marseilles, 18 cks.
Rouen, 3 dms.
Ghent, 50 bgs.
Hamburg, 26
Bordeaux, 2
Rotterdam, 10 4 pks.

Coal Products—
Alizarine
Rotterdam, 15 brls.
Aniline Salt
Rotterdam, 59 cks.
Beta Naphthol
Rotterdam, 13 pks.
Paranitraniline
Rotterdam, 9 cks.
Tar Salt
Rotterdam, 3 cks.

Cobalt Oxide—
Rouen, 5 cs.

Colours—
Hamburg, 70 cks. 322 pks. 2 cs.
Rouen, 81

Dextrine—
Hamburg, 8 cks.

Dyestuffs—
Tannin
Hamburg, 3 cks.

Farina—
Amsterdam, 150 bgs.
Rouen, 50
Rotterdam, 1,990

Glue—
Rouen, 73 pks.

Gluestock—
Genoa, 9 bls.

Glycerine—
Marseilles, 22 dms.

Iron Pyrites—
Pomaron, 7 t.

Lactic Acid—
Rotterdam, 11 cks.

Lead Nitrate—
Rouen, 20 cks.

Litharge—
Rotterdam, 41 cks.

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Magnesite
Amsterdam, 150 bgs.
Mineral White—
Bordeaux, 2 cks.
Ochre—
Marseilles, 86 cs. / 23 cks.
New York, 104 brls.
Olive Oil—
Marseilles, 3 cks.
Oxalic Acid—
Hamburg, 5 cks.
Rotterdam, 8
Paraffin Scale—
New York, 1,108 brls.
Philadelphia, 450
Paraffin Wax—
Philadelphia, 765 brls.
Potash—
Hamburg, 50 dms.
Potassium Prussiate—
Rouen, 3 cks.
Hamburg, 6
Rotterdam, 2
Red Lead—
Rotterdam, 7 cks.
Rosin—
Bordeaux, 36 cks.
Philadelphia, 1,600 brls.
Rubber—
Riga, 300 pks.
Saltpetre—
Hamburg, 1 ck.
Soap—
Genoa, 40 cs.
Leghorn, 5
N. York, 124 / 3 cks.
Starch—
Amsterdam, 5 cs.
N. York, 2,625 bgs.
Hamburg, 100
Rotterdam, 185
Stearine—
Rotterdam, 13 bls.
Sulphuric Acid—
Rotterdam, 5 cs.
Tallow—
New York, 140 hhds.
annic Acid—
Rotterdam, 6 cks.
Ultramarine—
Rotterdam, 2 cs. 3 pks.
Wax—
Leghorn, 3 brls.
New York, 450
Zinc Bisulphate—
Rotterdam, 1 ck.
Zinc Oxide—
Hamburg, 25 cks.
Rotterdam, 4
Zinc Salts—
Hamburg, 4 cks.

HULL.

Week ending November 9.

Alumina—
Ghent, 50 bgs. Wilsons & N.E. R. S. Co.
Alumina Sulphate—
Ghent, 50 bgs. Wilsons & N.E. R. S. Co.
Asbestos—
Riga, 11 pks. Wilson, Sons & Co.
Barytes—
Amsterdam, 42 cks. Hull & N. S.S. Co.
Rotterdam, 28 "
Bremen, 100 bgs.
Calcium Carbide—
Drontheim, 480 dms. Wilson, Sons & Co.
Christiania, 40 "
Chemicals (*otherwise undescribed*)
Dunkirk, 100 dms. Woodhouse & Co.
Rotterdam, 4 cks. 4 cs. Hull & N. S.S. Co.
Rouen, 3
Bremen, 2 2 cs. Veltman & Co.
Rotterdam, 1 4 pks.
Coal Products—
Alizarine
Rotterdam, 12 brls. 38 pks. 62 cks. Hull & Netherlands S. S. Co.
Aniline
Rotterdam, 358 pks. Hull & N. S.S. Co.
Pitch
Antwerp, 4 cks. Wilsons & N.E. R. S. Co.
Tar
Riga, 69 brls. Wilson, Sons & Co.
Libau, 67 pks. "
Tar Oil
Rotterdam, 80 cks.
Colours—
Antwerp, 37 cks. Wilsons & N.E. R. S. Co.
Cream of Tartar—
Rouen, 9 cks. Wilson, Sons & Co.
Dyestuffs—
Quebracho
Antwerp, 50 cs. Wilsons & N.E. R. S. Co.
Farina—
Antwerp, 14 brls. Wilsons & N.E. R. S. Co.
Harlingen, 50 bgs. Hull & N. S.S. Co.
Stettin, 50 Wilson & N.E. R. S. Co.
Glucose—
Rotterdam, 40 bgs. Hull & N. S.S. Co.
Glue—
St. Petersburg, 300 bgs. Wilson, Sons & Co.
Rouen, 4 cks. "
" 11 cs. "
Glycerine—
Rotterdam, 6 dms. Hull & N. S.S. Co.
Linseed Oil—
Amsterdam, 36 cks. Hull & N. S.S. Co.
Rotterdam, 466 brls. "
" 48 dms. "
Litharge—
Rotterdam, 14 cks. Hull & N. S.S. Co.
Ochre—
Rouen, 80 cks. Wilson, Sons & Co.
Rotterdam, 22 Hull & N. S.S. Co.
Phosphate—
Dunkirk, 120 t. Woodhouse & Co.
" 100 Wilson, Sons & Co.
Red Lead—
Amsterdam, 17 cks. Hull & N. S.S. Co.
Rosin—
Bordeaux, 150 cks. W. Moran & Co.
" 58 Helmsing & Son
" 27 Hanger, Watson & Harris
Soda Crystals—
Ghent, 160 bgs. Wilsons & N.E. R. S. Co.
Starch—
Antwerp, 90 cs. Wilsons & N.E. R. S. Co.
Bremen, 2,116 Veltmann & Co.
Ghent, 118 pks. Wilsons & N.E. R. S.Co.
Rotterdam, 15 cs. Hull & N. S.S. Co.
Tartaric Acid—
Rotterdam, 12 cks. Hull & N. S.S. Co.
Turpentine—
Riga, 20 brls. Wilson, Sons & Co.
Lahou, 15 "
Ultramarine—
Bremen, 4 cks. Sanderson & Co.
White Lead—
Amsterdam, 19 cks. Hull & N. S.S. Co.
Zinc Oxide—
Rotterdam, 10 cks. Hull & N. S.S. Co.
Stettin, 25 Wilson & N.E. R. S. Co.
Zinc White—
Rotterdam, 20 cks. Hull & N. S.S. Co.

GLASGOW.

Period ending November 12.

Asbestos—
Montreal, 300 bgs.
Barium Sulphate—
Antwerp, 100 bgs.
Castor Oil—
Coconada, 26 cks.
Antwerp, 11 brls.
Copper Pyrites—
Huelva, 2,150 t. Tharsis S. & C. Co., Ltd.
Cottonseed Oil—
New York, 50 brls.
Dyestuffs—
Cutch
Rangoon, 250 bxs.
Singapore, 485 cs. / 250 bgs.
Logwood Extract
New York, 12 cks.
Glue—
New York, 303 brls.
Iron Ore—
Bilbao, 2,000 t. Macleod & Co.
" 2,100 W. S. Miller & Co.
Seville, 2,800 A. B. Craig
Almeria, 3,500 "
Bilbao, 2,200 J. Jenkins & Sons
" 1,900 Macleod & Co.
Castro, 2,450 J. P. Kinghorn & Co.
Olive Oil—
Smyrna, 70 brls.
Potash—
Montreal, 5 brls.
Pyrites of Copper—
Huelva, 2,080 t.
Rosin—
Philadelphia, 300 brls.
Rubber—
New York, 57 dms.
Soap—
Boston, 4 cs.
N. York, 20 bxs. 21 cs.
Soap Powder—
New York, 1,000 bxs.
Soda Crystals—
Ghent, 100 bgs.
Starch—
New York, 400 bgs.
Antwerp, 60 121 cs.
Tartar—
Bordeaux, 50 cks.
White Lead—
New York, 70 cks.
Zinc Oxide—
New York, 250 brls.
Antwerp, 24

TYNE.

Week ending November 9.

Antimony—
Hamburg, 2,450 brls. Tyne, Tees S.S. Co.
Asbestos—
Rotterdam, 6 bls. Tyne, Tees S.S. Co.
Barytes—
Antwerp, 200 bgs. Tyne, Tees S.S. Co.
Bog Ore—
Antwerp, 290 t. Maurice Schwabbe
Calcium Carbide—
Trondhjem, 400 dms. Tyne, Tees S.S. Co.
Colours—
Antwerp, 25 dms. Tyne, Tees S.S. Co.
Copper Ore—
Trondhjem, 400 t.
Cream of Tartar—
Rotterdam, 1 ck. Tyne, Tees S.S. Co.
Ferro Silicon—
Antwerp, 45 cks. Tyne, Tees S.S. Co.
Glue—
Hamburg, 100 bgs. Tyne, Tees S.S. Co.
Antwerp, 20 bls. "
Iron Ore—
Rotterdam, 2 t. Tyne, Tees S.S. Co.
Linseed Oil—
Rotterdam, 57 brls. Tyne, Tees S.S. Co.
Lithopone—
Rotterdam, 20 cks. Tyne, Tees S.S. Co.
Antwerp, 20 "
Pyrites—
Huelva, 1,889 t. The Tharsis Sulphur and Copper Co.
Red Lead—
Rotterdam, 2 cks. Tyne, Tees S.S. Co.
Rosin—
Rotterdam, 2 bls. Tyne, Tees S.S. Co.
Saltpetre—
Hamburg, 13 cks. Tyne, Tees S.S. Co.
Soda—
Bergen, 1 cs. P. H. Matthiessen & Co.
Starch—
Antwerp, 80 cs. Tyne, Tees S.S. Co.

GOOLE.

Week ending November 9.

Barytes—
Hamburg, 40 cks.
Caoutchouc—
Boulogne, 8 cks. 6 bgs.
Chemicals (*otherwise undescribed*)
Antwerp, 270 bgs. / 2 cks. 1 cs.
Boulogne, 18 9
Hamburg, 2 38 80 cbys.
Ghent, 50 bgs.
Rotterdam, 50 3 pks.
Dyestuffs (*otherwise undescribed*)—
Antwerp, 47 brls. / 2 cs. / 257 bgs.
Boulogne 10 / 5 cks.
Hamburg, 164 18 cs.
Rotterdam, 849 72
Farina—
Hamburg, 300 bgs.
Glue—
Boulogne, 15 cs.
Rotterdam, 140 bgs.
Ochre—
Dunkirk, 39 cks.
Pyrites (Iron)—
Seville, 1,790 t.
Starch—
Dunkirk, 40 cs.
Ghent, 31 / 60 bgs.
Hamburg, 13 cks.
Rotterdam, 5
Stearine—
Boulogne, 7 cks.
Wax—
Hamburg, 30 cs.

GRIMSBY.

Week ending November 9.

Barytes—
Antwerp, 11 cks.
Rotterdam, 202 pks.
Bog Ore—
Rotterdam, 110 t.
Caoutchouc—
Antwerp, 9 cs.
Hamburg, 17 49 pks.
Rotterdam, 4
Chemicals (*otherwise undescribed*)
Rotterdam, 2 cks.
Colours—
Antwerp, 53 cks. 87 pks.
Rotterdam, 2 9
Hamburg, 25
Gluestock—
Hamburg, 91 bgs.
Rotterdam, 58 pks.
Lime Phosphate—
Hamburg, 21 bgs.
Antwerp, 500
Tar Oil—
Rotterdam, 3 tins

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EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending November 13.

Alum—
Saffi, 3 t. 4 c. £19

Ammonia—
Durban, 8 cs. £24
Sydney, 1 5
P. Said, 1 9
Bombay, 4 8
Constantinople, 10 13
Calcutta, 20 30
H. Kong, 2 6

Ammonia (Anhydrous)—
Yokohama, 12 cs. £88

Ammonium Carbonate—
Cologne, 3 t. 5 c. / 39 cks. £185
Calcutta, 20 52
Dunedin, 8 cs. 27
Yokohama, 5 33
Bombay, 15 32
Rangoon, 10 21
Santos, 10 17
Sydney, 5 c. 8
Yokohama, 10 68

Ammonium Sulphate—
Granville, 218 t. 6 c. £2,650
Kobe, 300 1 3,681
Hamburg, 50 600
Madeira, 20 1 250
Yokohama, 200 2,400

Antimony (Regulus)—
Ibrail, 10 c.
Melbourne, 2 t.
St. Petersb'g, 10

Asbestos
Manilla, £32
Shanghai, 39
Sydney, 68
Suez, 14

Barium Binoxide—
Paris, 27 t. 8 c. £925

Basic Slag—
Azores, 7 t. 6 c. £18

Bismuth—
Philadelphia, 1 t. 7 c.

Bisulphite of Lime—
Pernambuco, 10 hhds. £12

Bone Ash—
Sarawak, 10 c. £12

Bone Meal—
Phila'phia, 200 t. £1,075
Jersey, 5 2 c. 25

Borax—
Beira, 2 c. £5
C. Town, 6 5
Rio de Jan., 12 10
Sydney, 3 t. 125
Brisbane, 3 16 158
Durban, 10 9

Calcium Carbide—
Algoa Bay, 3 t. £61
Wellington, 1 1 c. 40
C. Town, 14 9
Singapore, 4 cs. 5

Chalk—
Boston, 900 t.

Chemicals (*otherwise undescribed*)
Colon, 11 cs. £21
Calcutta, 2 cks. 2 1 kg. 31
Melbourne, 15 17
Hamburg, 20 16
Beira, 1 7
Bombay, 19 187
Ostend, 3 241
M. Video, 2 8
Sydney, 6 pks. 1 43
C. Town, 1 10
E. London, 7 34
Durban, 11 23
Smyrna, 14 171
Salonica, 1 24
Piræus, 3 cks. 1 38
Malaga, 5 8
Colombo, 6 210
Rio Grande, 3 18
Paris, 5 126

Chemicals (*otherwise undescribed*)
Auckland, 10 dms. £14
Wellington, 3 30 cs. 74

Citric Acid—
Wellington, 3 c. £28
Dunedin, 1 9
Calcutta, 2 18
Melbourne, 1 tnk. 6
Hamburg, 5 39
Colombo, 1 12
Genoa, 1 13 276
Brisbane, 6 47
Algoa Bay, 1 6

Citric Acid (Crystals)—
Gibraltar, 2 cks. £20

Coal Products—
Alizarine
Bombay, 208 cks. £1,024
Boston, 25 350
Aniline
Christiania, 2 kgs. £13
Aniline Colours
Melbourne, 3 cs. £2,800
Aniline Dye
Calcutta, 2 kgs. £22
Oamaru, 10 cks. 189
Aniline Oil
Genoa, 10 dms. £280
Benzol
Ferneuzen, 21 cks. £91
Paris, 60 125
Carbolic Acid
Townsville, 2 cs. —
Libau, 8 dms. 11
Cairns, 36 19
Bombay, 5 11
Carbolic Acid (Crystals)
Trinidad, 1 cs. £25
Auckland, 2 6
Dunedin, 1 7
Creosote
Napier, 12 cks. £18
Galveston, 1,123 t. 2,159
Boston, 80 cs. 134
Creosote Oil
St. Petersburg, 2 cks. £2
Galveston, 1,152 t. 2,206
Naphtha
Sydney, 25 pks. £24
Naphthaline
Singapore, 20 pks. £9
Pitch
Gravelines, 250 t. £312
Antwerp, 925 1,174
Cette, 2,600 3,250
Rangoon, 50 kgs. 15
Dunkirk, 780 1,088
Marseilles, 1,782 2,807
Boulogne, 4 cks. 5
Boston, 53 130
Alexandria, 50 brls. 30
Malta, 60 3
Tar
Boston, 1 cs. £16
E. London, 50 dms. 6
Durban, 100 20 rnlts. 29
R'khampton, 20 7
Tar Oil
Hamburg, 260 cks. £134

Copper Sulphate—
Cadiz, 5 c. £8
Piræus, 6 10
Salonica, 5 8
Syra, 1 t. 32
Corfu, 1c 16
Wellington, 4 5
Ashburton, 5 6
New York, 14 18 298
Bordeaux, 19 13 392
Jersey, 1 26

Cottonseed Oil—
Bordeaux, 35 t. 2 c.
Rotterdam, 5 7
Aarhuus, 10 4
Hamburg, 49 18
Marseilles, 10 2
Stockholm, 1 14

Cream of Tartar—
Dunedin, 5 c. £20

Disinfectants—
Jamaica, 11 pks. £5
Launceston, 28 23
Singapore, 20 23

Disinfectants—
Delagoa Bay, 20 dms. / 58 cs. £133
Cologne, 15 267
Durban, 1 50 46
Calcutta, 2 8
Otago, 13 36 52
Yokohama, 150 31
Trinidad, 1 ck. 7
Rio de Jan., 200 206
Townsville, 5 6
H. Kong, 90 16
Shanghai, 4 8
Kilindini, 5 6
Auckland, 40 33
Hamburg, 60 cks. 10
Sydney, 9 cs. 37
Tientsin, 2 6
N. Orleans, 2 brls. 140

Fluoric Acid—
Algoa Bay, 1 c. £6

Glue—
Calcutta, 14,700 ozs.
Sydney, 1 t. 10 c.

Glycerine—
Bombay, 1 t. 4 c. £50
New York, 38 7 1,335
B. Ayres, 4 22
Limon, 2 cs. 10

Hydrochloric Acid—
C. Town, 4 c. £6

Linseed Oil—
Antofagasta, 10 t.
Auckland, 12 17 c.
Calcutta, 1 14
Geraldton, 8
Guayaquil, 16
Hamburg, 1
H. Kong, 1
Montreal, 36 5
Mossel Bay, 7
Napier, 3 4
Newcastle, 8
Paris, 7
Pernambuco, 3 11
Rockhampton, 14
Rotterdam, 19 7
St. Kitts, 4
Santos, 14 4
Syra, 4 9
Tangiers, 14
Townsville, 8 9
Wellington, 10 4
Bangkok, 16
Bombay, 4 11
Broome, 3
Brisbane, 4 19
Bundaberg, 1
Cairns, 2
Cuba, 17
Delagoa Bay, 19
Demerara, 4 6
E. London, 3 2
Malta, 18
Otaga, 4 2
Patras, 1 8
Piræus, 2 18
P. Elizabeth, 4 5
Rio de Jan., 3 7
Smyrna, 1 14
Sydney, 6
Thursday Is., 2
Trinidad, 2 16
Wanganui, 14
Yokohama, 15

Manure—
Jersey, 53 t. 11 c. £177
Antwerp, 11 13 55
Havana, 30 198
Jamaica, 15 135

Nitric Acid—
C. Town, 9 c. £18
Wellington, 4 6
Bombay, 60 cs. 3 91
Brisbane, 1 t. 19 20

Oleic Acid—
Philadelphia, 2 cks. £26

Pitch (Stearine)—
Hamburg, 106 brls. £185

Plumbago—
Brisbane, 19 c.
Helsingfors, 1 t. 14

Phosphoric Acid—
N. Orleans, 20 cbys. £80
New York, 34 96
Otago, 1 cs. .5

Phosphorus—
Sydney, 35 cs. £232
Melbourne, 20 132
Dunedin, 2 13
Wellington, 5 32

Potash—
Sydney, 5 c. £47

Potassium Bichromate—
M. Video, 18 c. £50

Potassium Chloride—
St. Kitts, 11 t. £20

Salt—
Lyttelton, 50 t.
Wellington, 30

Saltpetre—
Asuncion, 2 t. 14 c. £104

Sheep Dip—
B. Blanca, 500 cs. £1,000
Delagoa Bay, 80 pks. 24
Dunedin, 200 / 20 cks. / 300 dms. 850
Invercargill, 5 50 67

Silver Nitrate—
Brisbane, 1 cs. £7

Soap—
Adelaide, 1 c.
Bermuda, 3
Bombay, 7 t. 7
Boulogne, 4
Bremen, 1 2
B. Ayres, 2
Cairns, 1
Calcutta, 2 1
C. Town, 3 10
Colombo, 2 15
Durban, 13
E. London, 3
Grenada, 1
Jamaica, 6
Kobe, 6
Lyttelton, 1 14
Marmagoa, 3
Nelson, 10
Nevis, 5
Ostend, 1
P. Elizabeth, 10
Rotterdam, 8 4
St. Petersburg, 5
St. Kitts, 9
Stockholm, 1
Sydney, 15
Trinidad, 1
Wellington, 8
Alexandria, 10
Bangkok, 2
Bilbao, 3
Brisbane, 8
Christchurch, 8
Constantinople, 13
Ghent, 4
Gibraltar, 13
Hamburg, 15
H. Kong, 1 16
Karachi, 1 11
Kilindini, 1
Madeira, 2
Malta, 2
Melbourne, 1
Mombasa, 1
Montreal, 6 12
Ostend, 1
Otago, 1 7
Penang, 1
Piræus, 2
P. Sudan, 5
Rangoon, 3
St. Lucia, 1
Santander, 1
Singapore, 19

Sodium Bicarbonate—
Melbourne, 2 c. £5
Invercargill, 1 t. 6
Calcutta, 1 28

Sodium Carbonate—
Sarawak, 10 c. £9

Sodium Cyanide—
Townsville, 10 t. £909
Normanton, 1 91

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Sodium Salicylate—
Bombay, 2 c. £12

Sodium Sulphide—
Lyttelton, 20 t. 6 c. £220

Sodium Tartrate—
St. John, N.B., 6 c. £15

Starch—
Lyttelton, 1 t.
Marseilles, 1
P. Elizabeth, 1 2 c.
Alexandria, 6
Beira, 12
Brisbane, 13 18
Jamaica, 1 1
Mossel Bay, 1 7
Paris, 2 10
Rockhampton, 2
Sydney, 4 6
Townsville, 10 2
Wellington, 1 10

Sulphur—
Rotterdam, 1 ck. £8
B. Ayres, 1 t. 5 c. 18

Sulphuric Acid—
C. Town, 8 c. £8
Piræus, 10 t. 85
Bombay, 16 31
Brisbane, 11 6

Superphosphate—
Jersey, 149 t. 1 c. £436

Tallow—
Riga, 24 t. 18 c.
Rotterdam, 30 8
Barcelona, 12 1
Bombay, 5 15
Dantzig, 29 19
Harlingen, 4
Riga, 9 19

Tartaric Acid—
Wellington, 5 c. £25
Sydney, 2 t. 4 202
Melbourne, 4 40
Dunedin, 3 16
Gibraltar, 1 7
Christchurch, 1 6
Invercargill, 1 6

White Lead—
Auckland, £447
Bombay, 354
Brisbane, 792
Calcutta, 128
C. Town, 33
Melbourne, 500
Sydney, 575
Wellington, 970
Durban, 44

Wolfram Iron Ore—
Hamburg, 4 t.

LIVERPOOL.

Period ending November 13.

Alum—
Piræus, 1 t. £5
Rio de Jan., 2 12
Jaffa, 1 5
Rangoon, 8 17 c. 46
Bourgas, 4 1 25
Callao, 1 kg. 10s.
Adelaide, 9 £3
Cartagena, 5 2
Accra, 1 1

Ammonia—
Calabar, 1 c. £3
Rio de Jan., 19 22
N. Orleans, 1 4

Ammonium Carbonate—
Santos, 3 c. £5
New York, 2 t. 16 98
E. London, 1 2
Marseilles, 1 35
Ceara, 10 19
Genoa, 10 17

Ammonium Muriate—
Barcelona, 3 t. £69
Genoa, 5 1 c. 108
Alexandria, 2 48
Vera Cruz, 10 12
Genoa, 5 3 123
Naples, 1 3 28
Patras, 8 9
Melbourne, 1 1 25
Stockholm, 1 3 28
Marseilles, 18 21
Yokohama, 1 12 38
Tientsin, 1 29

Ammonium Sulphate—
Alicante, 40 t. 2 c. £459
Batavia, 34 16 425
Cheribon, 49 t. 15 c. £612
Tarragona, 20 245
Kobe, 169 2 2,034
Yokohama, 149 15 1,775
Demerara, 5 5 74
New York, 109 12 1,297
N. Orleans, 39 19 464
Penang, 10 4 123
Colombo, 50 5 603
Las Palmas, 28 10 351
Teneriffe, 50 620
Valencia, 302 3,843
New York, 15 184

Arsenic—
Colombo, 1 c. £2
Rio de Jan., 11 20
Singapore, 1 2
M. Video, 7 t. 240

Asbestos—
Bombay, 10 coils

Basic Slag—
Oporto, 99 t. 8 c. £150
Lisbon, 146 10 227
Piræus, 1 19 4
Villagarcia, 49 75

Bleaching Powder—
Bombay, 50 cs.
Boston, 529 cks.
Calcutta, 708 dms.
C. Town, 20
Copenhagen, 30
Galatz, 15
New York, 32
Santos, 50
Tampico, 30
Delagoa Bay, 25
H. Kong, 150
Maranham, 10
Oporto, 5
Para, 5 brls.
Rio de Jan., 9
Talcahuano, 10

Bog Ore—
B. Blanca, 44 t. 14 c.

Boiler Disincrustant—
Dunkirk, 3 cks.
Talcahuano, 10

Boracic Acid—
Hiogo, 2 t. 10 c. £62
Bari, 1 11 16
Ancona, 16

Borate of Lime—
Hamburg, 48 t. 12 c. £637

Borax—
Bombay, 3 t. 12 c. £57
Havana, 3 1 46
Amherat, 10 163
Vera Cruz, 1 9 26
Callao, 1 kg. 1
Piræus, 12 11
Santiago, 7 3
Santos, 10 8
Lyttelton, 1 16
Tampico, 7 16 227

Borax Crystals—
Rio de Jan., 10 c. £10
Nassau, 1 kg. 1

Calcium Chloride—
Sandakan, 4 t. 3 c. £9
Copenhagen, 1 18 5
New York, 6 8 15
Bombay, 1 1 2

Calcium Sulphydrate—
Antwerp, 31 t. 2 c. £129

Carbonate of Lime—
New York, 19 t. 13 c. £229

Castor Oil—
Melbourne, 25 brls.
S. Leone, 4 cs.

Caustic Soda—
Barcelona, 132 cks. 685 dms.
Bari, 314
Bombay, 9 100
B. Ayres, 757
C. Town, 225 pks. 10
86 cs.
Ceara, 29
Columbia, 30
Corral, 10
Durban, 60
Genoa, 326
Hamburg, 2
Havana, 115
Kobe, 345
Lisbon, 304
Mollendo, 20
M. Video, 54
Montreal, 275 brls. 169
New York, 50 2
Oporto, 88
Osaka, 35 dms.
Panama, 20
Rouen, 95
Santos, 61
Shanghai, 88
Sourabaya, 202
Sydney, 65
Talcahuano, 25
Tampico, 591
Venezuela, 85
Victoria, 3
Vera Cruz, 277
Yokohama, 52
Adelaide, 14
Beira, 40
Boston, 150
Braila, 433
Catania, 158
Ciudad Bolivar, 30
Colon, 117
Copenhagen, 15 bxs.
Coquimbo, 4
Delagoa Bay, 8 cs.
Fremantle, 93
Galatz, 28
Hernosand, 50
La Guayra, 7
Malaga, 40 brls. 50
Matanzas, 35
Naples, 20
N. Orleans, 10 bxs.
Penang, 10
Piræus, 95
P. Alegre, 50 50
P. Cabello, 20
Rio de Jan., 245
Rotterdam, 72
Seville, 200
Sousse, 5
Venice, 28

Chalk—
New York, 25 cks.

Chemicals (*otherwise undescribed*)
Bombay, 40 pks. £221
Winnepeg, 1 42
Sydney, 1 3
New York, 4 t. 15 c. 190
Bluff, 27 pks. 25
Auckland, 75 109
Napier, 50 58
Dunedin, 200 190
Stettin, 91 765
Konigsberg, 28 114
Lyttelton, 50 72
Wellington, 118 125
Toronto, 20 85
Stockholm, 36 327
Calcutta, 3,302 pcs. 221
Singapore, 40 cs. 320
Havana, 10 dms. 29
B. Ayres, 499 1,377
Rosario, 50 143
Quebec, 17 269 bgs. 118
Odessa, 120 kgs. 175
Naples, 30 46
Portland, M., 4 cks. 5
Montreal, 87
38 pks. 399

China Clay—
Maranham, 20 cks.
Montreal, 11
Naples, 80
Newport M., 200
New York, 300
Rio de Jan., 15
Genoa, 20 cs.
Oporto, 20 t.
Philadelphia, 60

Citric Acid (Crystals)—
Boma, 1 cs. £2

Coal Products—
Aniline Salt
Yokohama, 12 c. £35
Bombay, 1 t. 2 55
Carbolic Acid
Rotterdam, 12 t. 10 c. £711
Carbolic Acid (Fluid)
Baltimore, 5 c. £18
Carbolic Acid (Solid)
Genoa, 5 c. £15
Rosario, 10 41
Hamburg, 4 t. 19 280
Baltimore, 1 15
Yokohama, 5 262
New York, 20 1 1,122
Winnepeg, 13 34
Rotterdam, 5 18
Creosote Salts
Portland, M., 12 c. £27
Mirbane
St. Kitts, 5 c. £11
Naphtha
P. Colombia, 25 dms.
Pitch
Boston, 28 brls.
Rangoon, 50 cks.

Coal Products—
Tar
Padang, 20 cks.
P. Colombia, 50 brls.
Attuaboe, 5
Genoa, 100
Manilla, 50 dms.
Samarang, 50
Seville, 202 t. 9 c.
Sourabaya, 25 cks.

Colours—
Calcutta, 7 cs. 60 kgs.
Demerara, 3 cks. 230
Kobe, 52
Manaos, 54
Ferrol, 77
Genoa, 55
Hamburg, 2

Copperas—
Manilla, 6 c. £1
Rio de Jan., 10 1
Orotava, 1 t. 1 3
Las Palmas, 9 5 24
Teneriffe, 2 2 6

Copper Sulphate—
Calcutta, 18 t. £412
Trinidad, 2 10 c. 55
Varna, 9 197
M. Video, 9 16 204
Catania, 4 18 113
Natal, 1 24
Karachi, 4 110
Bordeaux, 21 8 435
Antwerp, 21 17 558
Riga, 4 94
Constanti'ple, 1 1 23
Stamboul, 2 43
Batoum, 1 19 45
Sydney, 10 236
Vera Cruz, 2 45
Tampico, 10 14
Barcelona, 20 5 443
Oporto, 2 46
Bourgas, 3 4 74
Bangkok, 12 12
Madras, 1 22
Calicut, 3 2 66
Bombay, 14 354
B. Ayres, 24 12 572
Nantes, 9 19 246
Rouen, 30 690
Victoria, 4 112
Philadelphia, 25 562
Trebizonde, 5 6
Brisbane, 2 10 73
Melbourne, 5 127
Callao, 4 9
Catania, 5 137

Cottonseed Oil—
Addah, 40 cs.
Bathurst, 7 brls.
Dakar, 55
Galatz, 25
Hamburg, 20
Marseilles, 534
Rufisque, 55 pks.
Tangiers, 15
Rufisque, 10

Cream of Tartar—
Cartagena, 2 c. £2

Dextrine—
Pasages, 30 bgs.

Disinfectant—
Port Said, 4 c. £6
Buguma, 1 1
Rangoon, 14 19
Cartagena, 1 5
Mossamedes, 4 2
St. Johns, N.B., 3 5
Sydney, 1 18 48
Copenhagen, 2 10 23
Bombay, 2 16 63
Bathurst, 2 4
Para, 5 79
C. Coast, 2 cs. 7
New Calabar, 1 3
Calcutta, 2 cks. 131
4,408 dms.
C. Town, 788 134
Umtali, 20 5
Durban, 2 cs. 4
Pt. Elizabeth, 509 93

Dried Blood—
Yokohama, 20 t. £206
Orotava, 6 6 c. 59
Teneriffe, 2 19
Colombo, 35 6 352

Dyestuffs—
Dyewood Extract
Barcelona, 12 cks.
Tannin Extract
Havre, 10 cks.
Odessa, 25 25 brls.
Constanti'ple, 10
St. Petersb'g, 85

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Dyestuffs (*otherwise undescribed*)—
Barcelona, 2 cks.4 cs.
Boston, 11
New York, 35

Ferro Manganese—
Leghorn, 30 t.
N. Orleans, 271 18 c.
Stockholm, 107 17
Hamburg, 12
Baltimore, 308
Phila'phia, 250

Fish Oil—
Havre, 32 brls.

Glue—
Kobe, 100 bgs.
Bilbao, 1 cs.
H. Kong, 80 tins
Montreal, 20
Nassau, 100
Shanghai, 30
Turin, 1
Vigo, 10

Glycerine—
Cartagena, 1 c. £4
Kobe, 1 t. 62
Havana, 12 31
Montreal, 30 13 1,454
Shanghai, 4 18 £260
New York, 24 4 907
St. Johns, N'fld., 3 11
N. Orleans, 5 18 262
Yokohama, 4 176
Bombay, 2 14 151
Pretoria, 5 15
Venice, 19 45

Iron Oxide—
Ancona, 10 cks.
B. Ayres, 40

Lead Nitrate—
Montreal, 9 t. 10 c. £290
New York, 17 550

Lead Ore—
Lagos, 82 kgs.
Antwerp, 125 t. 2 c.

Linseed Oil—
Alexandria, 152 brls.
Antofagasta, 150 dms.
B. Ayres, 230
Cabedello, 3 cks. 30
Burutu, 6
Ceara, 50
Cienfuegos, 12
Constantinople, 4
Demerara, 40 25
Havana, 6 37
Madras, 2 195
Manaos, 2 cs. 7 2
Monrovia, 9
Pernambuco, 5
Piræus, 10
P. Elizabeth, 48
P. Madryn, 40
P. Alegre, 7 90
P. Colombia, 6 10
Singapore, 100
Antwerp, 6
Bahia, 5
Beyrout, 12
Coquimbo, 50
Guantanamo, 25
Guayaquil, 140
Kingston, 10
Madeira, 2
Manilla, 150
Maracaibo, 2 c'ks.
Matadi, 10
Matanzas, 16
Opobo, 19
Orotava, 3
Palma, 2
Para, 5 4 hhds.
P. Arenas, 40 dms.
Salonica, 15
Valparaiso, 20

Litharge—
Patras, 2 cks.

Magnesium Carbonate—
Durban, 6 c. £6
Vera Cruz, 1 t. 23
Barcelona, 3 14 64
Alicante, 2 19 44

Magnesium Chloride—
Bangkok, 2 t. 9 c. £10
Smyrna, 1 4
Bombay, 9 5 25
Calcutta, 2 11 7

Magnesium Sulphate—
Malaga, 3 t. 12 c. £19

Manganese—
Hamburg, 2 cks.

Manure—
Calabar, 1 t. 14 c. £19

Ochre—
Madras, 60 kgs.

Oleine—
Boston, 50 brls.
Barcelona, 6

Paraffin Wax—
Tetuan, 10 cs.
Barcelona, 20 bgs.
Batoum, 50
Cephalonia, 5
Genoa, 42
Leghorn, 20 cks. 45
Palermo, 10

Potassium Carbonate—
Boston, 8 t. 17 c. £211

Potassium Chlorate—
Coatzacoalcos, 2 c. £4
Rio de Jan., 15 t. 1,050
Havana, 2 10 75
Syra, 1 30
Manilla, 5 150
Kobe, 25 750
Tampico, 5 18 177
Santos, 1 19 60
New York, 1 30
St. Petersb'g, 29 11 846

Potassium Iodide—
Cartagena, 1 c. £25

Potassium Sulphate—
Las Palmas, 10 t. £100
Teneriffe, 2 20

Red Lead—
Cienfuegos, 20 kgs.
Manaos, 20 cks.8
Manilla, 10
Para, 40
Piræus, 10

Salammoniac—
B. Ayres, 1 t. 19 c. £80
Bombay, 2 8 96
Montreal, 3 7
Calcutta, 3 114
Callao, 2 kgs. 2
Smyrna, 1 39

Salt—
Abonnema, 10 t.
Bahia Blanca, 31
Burutu, 50
Cocobeach, 8 18 c.
Gd. Bassam, 442 bgs.
Lahou, 350
Mossel Bay, 560 sks.
N. Orleans, 674
New York, 45
Opobo, 20
Para, 60
Portland, 175
St. John, 800
Shanghai, 150 cs.
Talcahuano, 200
Amsterdam, 749
Antwerp, 115
Baltimore, 35
Barbadoes, 25
Calabar, 200 16 c.
Calcutta, 5,236
Cameroons, 67 1
C. Palmas, 27 13
C. Town, 17 17
Christiania, 385
Delagoa Bay, 50 cs.
Duala, 49 1,500 bgs. 2 c.
Durban, 114 5
E. London, 21 17
Gibraltar, 50 cs.
Gd. Bassam, 37 17
G. Lahou, 11 3
Hamburg, 20
Leopoldville, 10 14
Lisbon, 27
Montreal, 1,479 16
Phila'phia, 100
Rotterdam, 160
St. John's, 10
S. Leone, 200
Stockholm, 162

Saltpetre—
Bathurst, 1 c. £1
Acora, 2 3

Sheep Dip—
Algoa Bay, 6 t. 15 c. £108
Bahia Blanca, 60 cks. 750 dms. 17 t. 9 705
B. Ayres, 132 3 2,828
C. Town, 108 11 2,421
Colombo, 1
Natal, 6 1 170
P. Arenas, 37 715
Victoria, 5 8
Umtali, 1 cs. 2

Soap—
Alexandria, 5 brls. 20 bxs. 100 cs.
Adelaide, 4
Amsterdam, 410
Antwerp, 150
Belize, 1,295
Bombay, 6 108 2,324
Brisbane, 4
B. Ayres, 225 46 pks.
Calabar, 110
Calcutta, 500 363
C. Town, 171 1,386
Colombo, 44 44
Constantinople, 20
Copenhagen, 97
Durban, 543 38 dms.
E. London, 765
Gibraltar, 100 bxs.
Havre, 15
H. Kong, 1,520
Karachi, 215
Lagos, 1,483
Madras, 53 258
Malta, 50
Montreal, 89
Pt. Elizabeth, 370
Rosario, 100
St. John, 439
Singapore, 40
Stockholm, 750
Sydney, 5
Antofagasta, 50
Bandjermassin, 50
Barbadoes, 532
Bourgas, 10
Cameroons, 10
Cartagena, 1
Christiania, 55
Copenhagen, 75
Curacao, 1,450
Delagoa Bay, 686 1,235
Demerara, 890
Dominica, 30
Duala, 250 dms.
Dunkirk, 1,551
France, 4 175
Galata, 5 brls. 12 bxs.
Gd. Bassam, 100
Hamburg, 50
Honduras, 345 cks.
Kingston, 138
Kobe, 25
Landana, 325
Las Palmas, 10 brls.
New York, 6
Manila, 1,330 bdls.
Manaos, 35
Matadi, 235
Mellila, 454
Para, 17
Patras, 50
Penang, 10
Piræus, 3,708
P. Louis, 49 24 dms.
P. Madryn, 196 1,502 bxs.
P. Said, 3,120 319
Rangoon, 20 115
Rotterdam, 150 25
St. Petersburg, 157 pks.
Shanghai, 50
Smyrna, 3 cks. 603
Sourabaya, 1,120
Sulina, 186
Talcahuano, 300
Tangiers,
Teneriffe,
Trinidad,
Valparaiso,
Yokohama,

Soap Extract—
Wellington, 5 pks.

Soap Powder—
Delagoa Bay, 10 cs.
Havre, 100 bxs.
Valparaiso, 6 brls.

Soda—
Boston, 30 cks.

Soda Ash—
Adelaide, 62 cks.
Amsterdam, 200 bgs.
Antwerp, 19
Bari, 125
Bombay, 31 cks.
Calcutta, 7 7,588
Canada, 866
Copenhagen, 2,200
Corral, 4
Fremantle, 18
Genoa, 97 1,050
Hiogo, 2,249
Hobart, 4
Karachi, 250
Kobe, 350
Maranham, 101

Soda Ash—
M. Video, 10 cks.
Montreal, 135 bgs.
Naples, 350
Oporto, 34
Rio de Jan., 230
Shanghai, 1,470
Stockholm, 160
Sydney, 167
Tampico, 500
Vancouver, 80
Vera Cruz, 297
Yokohama, 300
Bahia, 10 brls. 110 kgs.
Boston, 73
Havana, 6
Piræus, 40
Salonica, 100
Santos, 55
Trinidad, 8

Soda Crystals—
Bombay, 215 kgs.
Cape Town, 175 10 brls.
Gibraltar, 10
Malta, 110
Oporto, 17
Penang, 20 cks.
P. Said, 99
P. Arenas, 40
Rio de Jan., 40
Santos, 50
Shanghai, 10
Singapore, 4

Sodium Bicarbonate—
Adelaide, 200 kgs.
Bombay, 340
Brisbane, 100
Calcutta, 1,654
Cartagena, 6 cs.
Colombo, 17
Corfu, 7
Genoa, 12 bgs. 20
Hiogo, 1,500 1,000
Havana, 10 cks.
Karachi, 5 2,675
Lisbon, 50
Malta, 14
Manaos, 10
Montreal, 250
Naples, 45
Para, 20
Penang, 6 10
Pernambuco, 20
Rangoon, 7
Rosario, 43
St. Johns, 50
Jan Jose, 40
Singapore, 20 brls.
Stockholm, 32
Sydney, 67 101
Vancouver, 9 20
Vera Cruz, 100
Alexandretta, 8 bgs.
Boston, 30 cks.
Galatz, 20 dms.
Varna, 96

Sodium Bichromate—
Rouen, 28 cks.

Sodium Borate—
Rotterdam, 4 t. 7 c. £80

Sodium Carbonate—
N. Orleans, 15 brls.
Rotterdam, 16 72 bgs.

Sodium Chlorate—
Vera Cruz, 50 kgs.

Sodium Cyanide—
Natal, 3 t. £275

Sodium Hyposulphite—
Montreal, 195 hf-brls.

Sodium Nitrate—
Alicante, 107 bgs.

Sodium Prussiate—
New York, 50 cks.

Sodium Silicate—
Alexandria, 4 cks.
Barcelona, 83
Calcutta, 22
Corunna, 10 brls.
Galatz, 279 137
Lisbon, 60
Panama, 20
Para, 4
Valencia, 50
Yokohama, 81
Bombay, 32
Fremantle, 6
Konigsberg, 10
Montreal, 50
Naples, 20
Pt. Elizabeth, 8
Seville, 132
Tampico, 672 bgs.

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Sodium Sulphate—
Lisbon, 100 kgs.
Yokohama, 10 dms.
Montreal, 10 brls.
Sydney, 46
Bombay, 20
Melbourne, 24 t.

Sodium Sulphide—
Bombay, 1 t. £10
Yokohama, 2 10 c. 17
C. Town, 3 3 22
Sydney, 10 4 74
Melbourne, 5 3 38

Stannic Acid—
San Jose de C., 1 c. £5

Stearine—
Copenhagen, 125 trcs.
Hamburg, 30
Alexandria, 15
Piræus, 10

Sulphur—
Cardenas, 6 c. £2
Algoa Bay, 13 t. 8 146
E. London, 7 16 87
Cape Town, 7 16 87
Merritton, 108 3 446
Gothenburg, 50 225
Dunedin, 3 18
C. Town, 5 4 50
Algoa Bay, 6 6 70
Boca, 7 3
Oporto, 1 6
Demerara, 7 10 46

Sulphuric Acid—
Cawnpore, 1 t. 2 c. £11
Manaos, 18 16
Marahao, 2 5 24

Superphosphate—
Las Palmas, 21 t. 9 c. £55
Orotava, 3 10 13
Teneriffe, 60 5 177
Seville, 248 5 678
Malaga, 297 893
Durban, 55 16 156
Almeria, 198 602
Teneriffe, 25 11 72
Seville, 6 18 25

Tallow—
Amsterdam, 55 cks.
Demerara, 9 brls.
Fiume, 60 bxs.
Odessa, 34
Alexandria, 6
Braila, 170
Hamburg, 25 trcs.
Oporto, 12

Tartaric Acid—
Rangoon, 3 c. £15
Boma, 1 cs. 1

Tin Crystals—
Trinidad, 2 t. 14 c. £261
Barcelona, 6 50

Tin Oxide—
Hamburg, 16 cks.
Oporto, 1 kg.

Turpentine—
Sherbro, 10 dms.
Trebizonde, 3 brls.
Warri, 14

Ultramarine—
Moji, 6 brls.

Vaporite—
Vancouver, 50 brls.

Venetian Red—
S'therl'rg { 60 cks. / 50 bgs.

White Lead—
Gothenburg, 1 ck.

Zinc Chloride—
Rotterdam, 8 c. £4
Bombay, 9 t. 8 145

Zinc Muriate—
New York, 1 t. 12 c. £21
Piræus, 5 5 68
Oporto, 1 5 18

Zinc White—
Manaos, 10 c.

HULL.

Week ending November 9.

Ammonium Sulphate—
Dunkirk, 1,711 bgs.
Naples, 948
New York, 242

Antimony—
New York, 450 cks.

Chemicals (*otherwise undescribed*)
Amsterdam, 20 cks. 1 pk.
Bergen, 5
Christiania, { 8 1,606 slbs. / 260 bgs.
Christiansund, 9 pks.
Copenhagen, 7 cs. 25 btls.
Danzig, 30
Drontheim, 30 1
Genoa, 10 kgs.
Gothenburg, 14 1,028 pks.
Helsingfors, 3
Hamburg, 62 cks. 1 dm.
Konigsberg, 5
New York, 25 100
Naples, 11
Rouen, 28 pks.
Riga, { 18 / 15 kgs. 10 dms.
Stettin, 3 cks.
S. Petersb'g, 190 96

Coal Products—
Pitch
Amsterdam, 159 t.
Leghorn, 102
Wyburg, 319 bgs.
Tar
Amsterdam, 17 cks.
Danzig, 4
Konigsberg, 5

Colours—
Abo, 10 cks.
Amsterdam, 24 6 pks.
Copenhagen, 5 1 cs. 8 dms.
Drontheim, 5 kgs. 25
Genoa, 176
Ghent, 1 ck. 100
Hamburg, 31 172
Rouen, 8
Stettin, 38 7
Zeebrugge, 12

Cottonseed Oil—
Amsterdam, 94 t. 1 c.
Christiania, 1 8
Dunkirk, 4 8
Stettin, 7 18
Rouen, 5 2
Hamburg, 55 18
Harlingen, 7 2

Dyestuffs (*otherwise undescribed*)—
Danzig, 9 cks.
Stettin, 10 dms.

Gypsum—
Leghorn, 120 bgs.

Linseed Oil—
Amsterdam, 1 t. 4 c.
Christiania, 11
Dunkirk, 6 14
Hamburg, 12 3

Manure—
Dunkirk, 320 bgs.
Leghorn, 130 t.

Phosphate—
Copenhagen, 30 t.

Salt—
Rotterdam, 85 cs.

Starch—
Drontheim, 10 cs.
St. Petersburg, 1,000
Rotterdam, 6

Tallow—
Amsterdam, 14 cks.
Rotterdam, 50 trcs.

Turpentine—
Amsterdam, 18 cks.
Copenhagen, 1
Rotterdam, 8
Gothenburg, 5

GLASGOW.

Period ending November 12.

Ammonium Carbonate—
Spain, 1 t. 3 c. 3 q.

Ammonium Sulphate—
Demerara, 322 t. 17 c.
Grenada, 6 1
Trinidad, 53 6
Yokohama, 100

Basic Slag—
Trinidad, 10 t.

Caustic Soda—
Belgium, 5 t. 10 c.

Chemicals (*otherwise undescribed*)
Calcutta, £62
Johannesburg, 443
Demerara, 40

Coal Products—
Pitch
Buenos Ayres, £241
Egypt, £22. 10s.
Sweden, £132

Colours—
Madras, £120

Dyestuffs (*otherwise undescribed*)—
Sweden, £370

Dyestuffs—
Aniline Dye
Calcutta, £97

Farina—
Calcutta, 4 t.

Linseed Oil—
Malta, 1 t. 7 c. 1 q.
Demerara, 1
Trinidad, 17

Litharge—
Johannesburg, 5 t.

Magnesia—
Paris, 14 c.

Manure—
Delhi, 385 t. 10 c.
Kobe, 150
Yokohama, 50
Demerara, 1

Nitric Acid—
Madras, £38

Paraffin Wax—
Delagoa Bay, 10 t. 2 c. 1 q.
Rouen, 5 9
Paris, 19 3
Santander, 19 2
Spain, 36 5 2

Phosphates—
Algeciras, 332 t. 1 c. 1 q.

Potassium Bichromate—
Alexandria, 2 t. 13 c. 2 q.
Madras, 7 2

Potassium Cyanide—
Delagoa Bay, £162

Red Lead—
Bombay, 5 t.
Calcutta, 4

Soap—
Cape Colony, 5 t. 14 c. 2 q.
Pretoria, 2 4 2
Bombay, 13 10

Sodium Bichromate—
Bombay, 1 t. 3 c. 2 q.
Rouen, 15 5 2

Sodium Cyanide—
Beira, £82

Starch—
Bombay, £118

White Lead—
Alexandria, 10 t. 15 c. 1 q.
Delagoa Bay, 3 5
Malta, 1 16 3
Monte Video, 2 1

TYNE.

Week ending November 9.

Antimony—
Rotterdam, 5 t.

Antimony (Regulus)—
Hamburg, 30 t.
Rotterdam, 24 10 c.

Barium Binoxide—
Hamburg, 22 t. 13 c. 3 q. 14 lb.

Barium Carbonate—
Rotterdam, 10 t.

Bleaching Powder—
Aarhus, 10 t. 1 q. 6 lb.
Odense, 6 7 c. 1 26
Copenhagen, 7 11 2 26
Rotterdam, 10 2 2 11
Hamburg, 20 3 1
Gothenburg, 10 5 2 25

Caustic Soda—
Genoa, 98 t. 3 q. 7 lb.
Norway, 11 12 c. 16
Aarhus, 2 18 4
Copenhagen, 20 6 1
Hamburg, 4 1 2
Gothenburg, 14 11 3 4

Linseed Oil—
Norway, 3 c. 1 q. 15 lb.

Litharge—
Gothenburg, 6 c.
Rotterdam, 12 6 lb.

Potash—
Antwerp, 10 c.

Red Lead—
Genoa, 3 t. 15 c. 1 q. 24 lb.
Lisbon, 9 16 2 21
Antwerp, 2 4 1 15
Gothenburg, 10 3 6
Genoa, a qty.

Soap Powder—
Norway, 18 lb.

Soap—
Norway, 2 t. 5 c. 2 q. 20 lb.
Bergen and Trondhjem, 9 2 21

Sodium Silicate—
Amsterdam, 3 t. 10 c. 20 lb.

Soda Ash—
Norway, 1 t. 1 c. 3 q. 26 lb.
Amsterdam, 60 7 1 4

Sodium Sulphide—
Naples, 2 t. 3 q. 22 lb.
Palermo, 1 7 c. 24
Hamburg, 10 3 2 12
Copenhagen, 2 9 1 26
Genoa, 5 2 16
Gothenburg, 5 13 2 19

Soda—
Norway, 20 t.

Sodium Hyposulphite—
Odense, 2 t. 1 c. 2 lb.

Sodium Sulphate—
Gothenburg, 45 t. 3 c.

Sulphur—
Gothenburg, 76 t.
Amsterdam, 4 18 c.

Wax—
Bergen, 10 c.

White Lead—
Hamburg, 5 t. 3 c. 1 q. 6 lb.
Gothenburg, 1 8 3 4
Copenhagen, 2 16 1 12
Rotterdam, 9 19 23

GOOLE.

Week ending November 9.

Ammonium Carbonate—
Rotterdam, 5 cks.
Hamburg, 10

Chemicals (*otherwise undescribed*)
Amsterdam, 2 cks. 30 dms.
Antwerp, 38 2
Hamburg, 55 75 cs.
Rotterdam, 69 80

Coal Products—
Benzol
Boulogne, 50 cks.
Pitch
Antwerp, 1,236 t.

Coal Products (*otherwise undes.*)—
Amsterdam, 24 cks.
Boulogne, 118 26 dms.
Delfzyl, 262
Hamburg, 5
Rotterdam, 24 32

Colours—
Amsterdam, 100 bgs.
Antwerp, 16 cks. 1 cs. 5 dms.
Boulogne { 8 25 4 / 6 tins
Hamburg, 5 pks.
Rotterdam, 4

Dyestuffs (*otherwise undescribed*)
Antwerp, 12 cks. 3 cs.
Rotterdam, 4

Manure—
Antwerp, 202 bgs.

GRIMSBY.

Week ending November 9.

Chemicals (*otherwise undescribed*)
Hamburg { 31 cks. / 10 kgs.
Rotterdam, { 60 / 500 bgs.

Coal Products (*otherwise undes.*)—
Dieppe, 77 brls.

Colours
Hamburg, 4 pks.

Dyestuffs (*otherwise undescribed*)—
Dieppe, 1 kg.
Rotterdam, 3

Manure—
Hamburg, 2,801 bgs.

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PRICES CURRENT.

FRIDAY, November 22, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.	
Acids :—					
* Acetic, 25% and 40%	per cwt.	9/-	&	13/-	
* ,, Glacial	,,		40/-		
Arsenic S.G. 2,000°	,,		31/-		
* Fluoric	per lb.	0	0	4½	
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/1		
* ,, (Cylinder), 30° Tw.	,,	0	2	9	
* Nitric 80° Tw.	per ton	14	15	0	
* Nitrous	nett per cwt.	0	18	6	
Oxalic	per lb.	0	0	3¾	
Phosphoric, 1750°	,,	0	0	10½	
Picric	,,	0	0	11	
* Sulphuric (fuming 70%)	per ton	6	0	0	
* ,, (Pyrites, 168°)	,,	3	2	6	
* ,, (,, 150°)	,,		30/-		
* ,, (free from arsenic, 145°)	,,		36/-		
* Sulphurous (solution) S.G. 1025	,,	3	0	0	
Tannic	per lb.	0	1	3	
Tartaric	,,	0	0	10¾	
*Acetone	per ton	81	0	0	
Arsenic, white powdered	nett ,,	28	15	0	
*Alum, loose lump (delivered)	,,	5	12	6	
Alumina Sulphate (pure)	,,	4	7	6	
Aluminoferric (in slabs)	,,	2	12	6	
Aluminium (Ingot metal 98/99%)	nett ,,	106	0	0	
*Ammonia, Anhydrous	per lb.	0	1	1	
* ,, .880	per ton	24	0	0	
* ,, .920	,,	13	0	0	
,, Carbonate	per lb.	0	0	3½	
,, Muriate (grey)	per ton	25	0	0	
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-	
,, Nitrate	per ton	36	0	0	
,, Phosphate	,,	38	0	0	
,, Sulphate (grey), London	,,	11	18	9	
,, ,, ,, Hull	,,	12	0	0	
,, ,, ,, Manchester	,,	12	0	0	
*Aniline Oil (pure)	per lb.	0	0	5½	
Aniline Salt ,,	,,	0	0	4½	
Antimony	per ton	38	0	0	
,, (tartar emetic) 43/44%	per lb.	0	0	9½	
,, (golden sulphide)	,,	0	1	3	
Barium Chloride	per ton	7	5	0	
,, Carbonate (native). 92/94%	,,	5	0	0	
,, Sulphate (native levigated)	,,	45/	to	65/-	
*Bisulphide of Carbon	,,	18	10	0	
Bleaching Powder, 35%	nett ,,	4	7	6	
* ,, Liquor, 7%	,,	2	0	0	
Chromium Acetate (powder)	per lb.	0	0	5¾	
Calcium Chloride	per ton	2	10	0	
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6	
Coal Tar Products and Dyes :—					
Alizarine (artificial), 20%	nett per lb.	0	0	7	
Magenta	,,	0	2	3	
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾	
Benzol, 90's	per gallon	0	0	9	
,, 50/90	,,	0	0	8½	
Carbolic Acid (crude 60°)	,,	0	1	8	
,, (crystallised 40°)	per lb.	0	0	5½	
,, (liquid 95/97%)	per gallon	0	1	3	
* Creosote (ordinary), naked	,,	0	0	2¾	
* ,, (filtered for Lucigen light)	,,	0	0	3½	
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½	
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0	
* Pitch, f.o.b. Liverpool or Garston	,,	1	3	0	
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3	
Copper	per ton	59	0	0	
,, Sulphate	,,	21	15	0	
,, Oxide (copper scales)	,,	51	10	0	
*Glycerine (crude), 80%	,,	37	10	0	
* ,, (distilled S.G. 1260°)	,,	61	10	0	
Iodine	nett per oz.	0	0	6	
*Iron Sulphate (copperas)	per ton	1	10	0	
,, Sulphide	,,	3	10	0	
Lead (sheet)	,,	19	15	0	
,, Litharge Flake (ex ship)	,,	20	0	0	
,, Acetate (white) ,,	,,	31	0	0	
,, ,, (brown) ,,	,,	26	0	0	
,, Carbonate (white lead), pure	,,	23	0	0	
,, Nitrate	,,	32	10	0	

		£	s.	d.	
Lime, Acetate (brown) (ex ship)	per ton	8	7	6	
,, ,, (grey) 80%	,,	12	7	6	
Magnesium (ribbon and wire)	per lb.	1	0	0	
,, Chloride	per ton	3	7	6	
,, Carbonate	per cwt.	1	17	6	
,, Calcined Magnesia	per ton	17	0	0	
,, Sulphate (Epsom Salts)	,,	3	0	0	*
Manganese, Sulphate,	,,	17	10	0	
,, Borate	per cwt.	2	2	6	
,, Ore, 70%	per ton	7	15	0	
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5	*
Naphtha (Wood), Solvent	,,	0	2	4	*
,, ,, Miscible, 60° O.P.	,,	0	1	10	*
Oils :—					
Cottonseed	per ton	23	5	0	
Linseed	,,	24	0	0	
Stearine	,,	32	0	0	
Phosphorus (yellow)	per lb.	0	1	5	
,, (red)	,,	0	1	11	
Potassium, Bichromate	nett ,,	0	0	3½	
,, Carbonate, 90% (ex ship)	per ton	19	10	0	
,, Chlorate	per lb.	0	0	3½	
,, Cyanide, 98%	,,	0	0	8½	
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0	
,, ,, ,, 75/80%	,,	21	0	0	
,, Potash Hydrate Liquid, 50%	,,	14	10	0	*
,, Nitrate (refined)	,,	23	10	0	
,, Permanganate (small crystals)	per cwt.		36/-		
,, Prussiate (yellow)	per lb.	0	0	5¾	
,, Sulphate, 90% (ex ship)	per ton	9	15	0	
,, Muriate, 80% ,,	,,	9	0	0	
Silver (metal)	per oz.	0	2	3	
Sodium (metal)	per lb.	0	3	0	
,, Carb. (refined Soda-ash), 48%, nett	per ton	5	15	0	f.o.r. w'ks.
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Alkali), 58% (bags)	,,	4	10	0	
,, ,, (Soda Crystals) (bags)	,,	2	17	0	
,, Acetate (ex ship)	,, ,,	17	5	0	
,, Arseniate, 45%	,, ,,	23	10	0	
,, Borate (Borax), Crystals	,, ,,	16	0	0	
,, Bichromate	,, per lb.	0	0	3	
,, Cyanide (100% basis)	,, ,,	0	0	7½	
,, Chlorate	,, ,,	0	0	3½	
,, Hydrate (76% C. Soda) (f.o.b.)	nett per ton	11	0	0	10 ton lots
,, ,, (74% C. Soda) ,,	,, ,,	10	15	0	
,, ,, (70% C. Soda) ,,	,, ,,	10	5	0	
,, ,, (60% C. Soda) ,,	,, ,,	9	5	0	
,, ,, (pure liq. 90° Tw.)	,, ,,	4	15	0	
,, 77/78% powdered (99% hydrate)	per ton	12	10	0	
,, Bicarbonate (cwt. kegs)	,,	6	15	0	
,, Hyposulphite	,,	6	5	0	
,, Manganate, 25%	,,	20	0	0	*
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	1½	
,, Nitrite, 98%	per ton	29	10	0	
,, Phosphate	,,	9	5	0	
,, Prussiate	per lb.	0	0	3⅝	
,, Silicate (glass)	per ton	5	5	0	
,, ,, (liquid, 100° Tw.)	,,	3	17	6	
,, Stannate, 40%	per lb.	0	0	9	
,, Sulphate (Salt-cake)	per ton	2	2	6	*
,, ,, (Glauber's Salts)	,,	1	15	0	*
,, Sulphide (crystals)	,,	6	5	0	
,, Sulphite	,,	6	5	0	
Strontium Hydrate, 100%	,,	9	0	0	
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½	
,, Barium, 95%	,,	0	0	3½	
,, Potassium	,,	0	0	7	
Sulphur (Flowers)	per ton	6	10	0	
,, (Roll Brimstone)	,,	6	5	0	
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6	*
Superphosphate of Lime (26%)	,,	2	10	0	
Tallow	,,	33	10	0	
Tin Crystals	per lb.	0	0	9¾	
,, English Ingots	per ton	139	0	0	
Zinc (Spelter)	,,	21	5	0	
,, Chloride (solution, 100° Tw.)	,,	6	5	0	*
,, Sulphate, Crystal	,,	7	0	0	

* *Packages extra, or returnable:* Otherwise, prices usually include packages.

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THE

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AND

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CURRENT TOPICS.

AN INDUSTRIAL ALCOHOL COMBINATION.

IT will be remembered that the deliberations of the Royal Commission on Industrial Alcohol resulted in the granting to manufacturers of certain concessions regarding the use of spirit, and it was expected that the Revenue Act which came into force last year would do much to equalise the conditions under which British chemical manufacturers have to meet foreign competitors. Particulars have now been made public, however, respecting the formation of a combination of the principal manufacturers of industrial alcohol, whose movements will be watched with grave apprehension by all who are interested in the question of cheap spirit.

In reviewing the position, the *Times* points out that in spite of the concession made by the Inland Revenue, users of methylated spirit are paying only 1d. per gallon less than they paid before the rebate of 5d. per gallon was allowed. One can only expect that, as a result of this closer combination of spirit-producers, the price of industrial spirit may soon be higher than it was before the Government interposed on behalf of the manufacturers. While the price of spirit for industrial purposes is advancing in this country, the price in America is decreasing, and in all probability will continue to decrease, and as a result we may expect to see a large increase in the imports from the United States of those chemicals and other goods in the manufacture of which alcohol is essential. The "free alcohol law" came into force in America three months after the Revenue Act of 1906 came into operation in this country. The effect of the law in America has been to stimulate competition and to increase the production of spirit; the effect of the levy in this country has been to check competition and raise the price of spirit. It should be stated, however, that the American law permits of the use of industrial spirit for light, heat, and motive power, and that in America producers of the spirit have been relieved of some of the restrictions which apply in this country; but the fact remains that America in the future, as a result of the new alcohol law, will be a very serious rival to British chemical manufacturers. The combination of spirit makers will also be watched with interest by those engaged in the motor industry. Although the Revenue Act did not permit of the use of industrial spirit for motive purposes, the hope was entertained that such an impetus would be given to the spirit industry that in course of time the production in this country would be enormously increased, and that ultimately the cost of production would be below the selling-price of petrol. When such a time arrived there was every probability that the Inland Revenue would have allowed the same concessions in respect of spirit used for motive-power as for spirit used for manufacturing purposes.

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The writer in the *Times* goes on to observe that one effect of this new development in the industrial alcohol manufacturing industry has been to give the methylators a feeling of greater security. For a considerable time past the competition among methylators has been exceedingly keen, and prices have been cut to a point which leaves little or no margin of profit. This was due, in some measure at least, to the fact that large buyers could buy on better terms than their smaller competitors, and, of course, the lowest price made the market price. Now, however, all this is changed, and all methylators of plain British spirits will be on the same footing as regards buying terms. It is understood that a meeting of the methylators and others interested has already been held at Liverpool, and that an agreement has been come to with the view of maintaining prices at a uniform level. This is not the first agreement of the kind that has been entered into in the methylating trade; and, while the parties to it are solemnly bound to maintain its provisions, considerable doubt seems to be felt in trade circles as to how long those provisions will be honourably observed. In any case methylators are acting upon the assumption that one result of the establishment of this new selling agency by the producers of plain British spirits for industrial purposes will be an early advance in prices. The trade in industrial alcohol is a steadily growing one, although considerable disappointment and dissatisfaction have frequently been expressed at the slow progress that has been made as compared with Germany, for instance. The present German output of industrial alcohol, which is made almost entirely from potatoes, is somewhere about 50,000,000 gallons, whereas, according to the latest figures, the annual production of methylated spirits in this country is a little over 6,000,000 gallons. During the past ten years, however, methylated spirits have been coming into steadily increasing use, and foreign spirits, which were at one time methylated in this country to a considerable extent, have been entirely ousted by the home-trade article, this being due to the high prices which have latterly been ruling for German potato spirit. High hopes are entertained in trade circles that the next few years will witness a great development in the consumption of industrial alcohol as a result of the better appliances now being made for utilising it, and to the more liberal regulations regarding its manufacture and sale. So far as can be seen at the moment, the new combination is one which might be expected to work for the good of the industry if its objects were strictly adhered to. Where practically unlimited powers with regard to the fixing of prices, however, are put into the hands of any body of traders there is always the danger that these will sooner or later be abused, owing to what may be described as the natural greed for profit. In view of the efforts that are being made to encourage the use of industrial alcohol in this country by cheapening its cost and in other directions, it would be a pity if these efforts were nullified by the tyrannical impositions of a combination of manufacturers.

It would appear that in the event of the non-realisation by manufacturers of the concessions deliberately intended to be made by the Revenue Act of 1906, some further Government action will be necessary if effect is to be given to the intentions of the Royal Committee.

DEVELOPMENTS IN THE ITALIAN CHEMICAL INDUSTRY.

A report from Genoa calls attention to the rapid development which has recently taken place in the chemical industry in Italy, and to the very promising future which appears to be in store for this industry. The chief consideration that has, up to the present, stood in the way of its making any great strides, has been the high cost of coal. Now, however, that Italy is utilising to such an increasing extent its hydraulic power, this difficulty has almost vanished. The production of sulphuric acid shows a continuous advance. The statistics of production show that during the last decennial period the output has increased from 957,000 to 2,780,000 quintals. This advance is of the greatest importance to the chemical industry, as so many branches of it are dependent upon the use of vitriol. Corresponding to the larger output of sulphuric acid, a proportionate step has been made in the production of artificial manure. At present 52 large and 20 small manufactories are in existence in Italy, the greatest number of which, and the most important in point of view of production, are situated in Northern Italy, and are capable of a total production of 6 million quintals. Their actual output has risen during the last ten years from 1,457,000 to 4,591,000 quintals, and the increase is expected to continue, particularly as there is an ever-increasing demand on the part of the agricultural population. Hitherto, the use of this adjunct to agriculture has been distrusted, and the Government has taken special steps to change this attitude. Equally important for the development of the chemical industry is the increasing production of sea salt in Sicily, where it enjoys freedom from tax. This rose from 39,000 quintals ten years ago to 111,000 quintals, and an equivalent step forward has been made with the output of hydrochloric acid. The great development which has taken place in Italy in the utilisation of water-power has also enabled much larger quantities of caustic soda, calcium chloride, calcium carbide, etc., to be produced.

The manufacture of sulphate of copper has increased very considerably, the annual production having risen to 175,000 quintals from 31,510 quintals ten years ago. The article finds a ready sale in connection with vine cultivation. The production of sulphide of carbon is an industry which has been established for over forty years in Italy, and sufficient has been made during the last five years not merely to supply home requirements, but also for exportation. In the vicinity of the textile manufacturing districts, quantities of the various chemical preparations utilised in bleaching, etc., are turned out. The once prosperous Italian manufacture of refined boracic acid has been displaced by the competition of Germany and the United Kingdom, aided by plentiful supplies of the raw product from California; recently, however, renewed attention has been given in Italy to this manufacture, and the increased output, from the new factories that have been established, has met with a good demand, both for home and export. A noteworthy development has also taken place in the manufacture of carbonic acid, which now reaches about 1,000,000 kilogrammes annually.

PROFITS IN THE GERMAN CHEMICAL TRADE.

The figures quoted at the recent meeting of the Defence Syndicate of the Chemical Industries in Germany show that the German chemical trade was in a most prosperous condition in the year 1906. The number of workmen employed had risen from 188,386 in 1905 to 198,002. The wages, which reached 197,500,000 marks in 1905, rose to 217,300,000 marks in 1906; or, per head, they had increased from 1,048.23 marks to 1,097.54 marks. The importation of raw materials and semi-raw materials rose from 13,600,000 to 16,600,000 metrical quintals, whilst the exportations rose from 11,600,000 metrical quintals to 13,200,000

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metrical quintals. The improvement is still more marked in the values of the exports, which rose from a total of 463,600,000 marks to 575,500,000 marks, an improvement of 23%. In spite of the increased prices of the raw materials and the decreased sale prices in some cases, the chemical industries realised greater profits in 1906 than in 1905, even although the increase in wages has been considerable. The average dividends paid by the 147 share companies, whose combined share capital is 477,000,000 marks, plus 90,000,000 marks in debentures and mortgages, and 154,000,000 marks reserve funds, was 15.07%, against 14.18% in 1905. The total dividends distributed amounted to 72,000,000 marks. Twenty-four of the companies declared no dividend; in three cases the dividend did not exceed 2½%; in eleven cases it did not exceed 5%; fifty-one distributed from 5% to 10%, twenty-five from 10% to 15%, and twenty-nine over 15%.

CHEMICALS IN CHINA.

THE most remarkable feature in the import of dyes into China during 1906 is the rapid rise of artificial indigo, which bids fair to supplant the natural blue. The latter, although it appears in the list of foreign imports, is really a Chinese product shipped to Hong Kong, mostly from the West River, for distribution to other parts of China. Artificial indigo advanced from 43,357 cwts. in 1905 to 87,914 cwts. in 1906, and in value from £259,649. to £523,403. Belgium and Germany accounted for 35,014 cwts. of the 43,357 cwts. imported in 1905, Belgium's share, practically one-half of the whole, being valued at £120,864. The strides made by the synthetic dye may be gathered from the imports during the last five years:—3,887 cwts. in 1902, 17,314 cwts. in 1903, 22,756 cwts. in 1904, 43,357 cwts. in 1905, and 87,914 cwts. in 1906. Vegetable indigo, on the other hand, which fell from 93,390 cwts. in 1904 to 90,108 cwts. in 1905, dropped to 67,836 cwts. in 1906. Mangrove bark decreased 775 cwts., while all other dyes, with the exception of vegetable indigo, increased. Vermilion, which rose from 3,960 to 4,020 cwts., is almost entirely produced in Hong Kong, where there are some ten native establishments engaged in its manufacture. The operation consists in subliming the black sulphide resulting from the heating of the sulphur with quicksilver in shallow iron pans, one inverted over the other. The red sulphide is then pounded in mortars, and ground with water in stone mills, the vermilion thus deposited being collected and dried on trays arranged in specially heated rooms. Adulteration is not unknown to the manufacturers. The value of paints and paint oil rose from £85,289. to £90,261., and was slightly ahead of the average import of the previous five years.

The following is a comparative statement of the imports of dyes, colours and paints, extracted from the annual report of the British Consul-General:—

	Quantity.			Increase or Decrease in 1906 compared with—	
	Average 1901–05.	1905.	1906.	1905. (quantity)	Average 1901-05.
Dyes, colours, and paints—					Per cent.
Bark, mangrove ...Cwts.	163,015	151,719	150,944	– 775	– 7·40
Cinnabar ... ... ,,	—	2,891	2,951	+ 60	—
Dyes aniline ... Value £	284,645	383,342	422 909	+ 39,567	+ 46·51
Indigo, artificial } Cwts.	101,226	43,357	87 914	+ 44,557	+ 53·86
,, vegetable }		90,108	67,839	+ 22,272	
Sapanwood ..... ,, ...	64,826	48,419	50,912	+ 2,493	– 21·46
Vermilion .... ,, ..	—	3,960	4.020	+ 60	—
Dyes, unclassed ... ,, ...	—	63,351	77,583	+ 14,232	—
Colours .... ,, ..	—	10,744	13,858	+ 3,114	—
Paints and paint oil. Value £	89,482	85,289	90,261	+ 4,972	+ 0·86

Matches.—The decrease of 5,000,000 gross in the import of matches in 1906 is not a sign that the many native match factories scattered throughout China are successfully competing with the foreign supply. On the contrary, several of these factories have been shut down during the year, and the excess of over 5,000,000 gross in 1905 as compared with 1904, which was 4,500,000 gross ahead of 1903, clearly indicated the cause of the decline. The import in 1906 amounted to 22,998,830 gross of the value of £845,927., and was principally Japanese. Match-making materials increased in value from £40,946. in 1905 to £51,403. in 1906, and were nearly 10% ahead of the average of the previous five years.

Soap.—Soap had a set-back in 1906, but the import of 1905 was £93,627. in excess of the previous five years average, and the decline of £19,279. is not a serious matter. Soap of good quality will always be in demand in China, but it is unfortunate that very inferior imitations of the finest toilet soaps are being manufactured in the Far East and placed in large quantities on the China market. The Chinese are not yet sufficiently acquainted with those niceties which distinguish the true from the false. As regards common soap, toilet and bar, there is now a considerable output in China itself and in Hong-Kong, but there does not exist what may be called a first-class factory in the country. In two factories at Shanghai, the daily output of the larger, on an emergency, was 200 boxes, each containing 20 bars and weighing 46 lbs. The sale price per box was 1.65 Shanghai taels. The report contains an account of a visit to this works, where toilet soap was also being made, each two cakes being joined together. A box of this soap weighed 52 to 53 lbs., and cost 1.75 Shanghai taels. The ingredients used were: cocoanut oil, imported in casks containing 5 piculs, laid down in Shanghai at 14 taels per picul, including cask; animal tallow, at 9.50 taels per picul; vegetable tallow, costing 10 taels odd per picul, from Hupei (Hankow); cottonseed oil, at 7 taels per picul, procured locally; and soda from the United Kingdom, at 4 taels per picul. The proper proportions of these are mixed, steamed, and ladled into earthenware jars, whose contents are allowed time to settle before being poured into oblong wooden moulds. The block of soap is removed after 24 hours, and stacked till ready to be cut into bars by wire. The bars are then piled to dry. Before being packed in boxes the soap is stamped, a wooden block, previously dipped in scent oil, being hammered by hand along one side of each bar, leaving the maker's name in Chinese and Roman characters. In another factory the name is impressed by a machine worked by a hand lever.

Candles.—In 1906, candles shared the fate of soap, and for the same reason. Their value fell from £208,185. to £106,724., which, however, was 4.31% ahead of the average import of the previous five years. The Chinese are great candle makers, and if they used foreign wicks their present product would be incomparably better than it is. Tallow and wax candles are also made in foreign style, but on a limited scale. In one factory visited in Shanghai a candle machine, with 12 tubes, was at work, and surrounding it were boxes of stearine and petroleum wax.

The following is a comparative table showing the imports of cement, candles and soap imported during the years 1905-06:

	Av. 1901-05.	1905	1906.	1905. (Value.)	Increase or Decrease in 1906 compared with Average 1901 - 1905.
	£	£	£	£	
Candles ...	102,306	208,185	106,724	–101,461	+ 4.31%
Cement ...	42,389	83,410	142,838	+ 59,428	+236.93%
Soap.....	162,773	235,321	216,042	– 19,279	+ 32.78%

Cement.—The great bulk of the cement comes to China from Hong-Kong, where it is manufactured by the Green Island Cement Company, which secures its supply of limestones from the West and North Rivers in the Canton province. The Chinese Government are about to erect cement works on the Island of Honam at Canton. German machinery was imported some time

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ago, and the contract for the erection of the works has been secured by a British firm. Chemical products (not including match-making materials, medicines and soda) increased from £37,327. to £55,811.

Sulphur increased in quantity from 34,774 to 42,920 cwts., and in value from £9,493. to £13,661. Some 400 to 600 tons of this sulphur, mainly from Japan, are imported by an acid works at Shanghai, which is engaged in turning out sulphuric, nitric and muriatic acids, which it disposes of to various Chinese arsenals for use in the manufacture of smokeless powder and for other purposes. The import of sulphuric acid increased in quantity from 21,079 to 41,242 cwts., and in value from £9,348. to £19,675. Varnish fell off in quantity, but shows an increase in gold value from £18,309. to £18,779. Woods of all kinds, exclusive of sandalwood, timber, and dye woods, rose in value from £97,251. to £122,123.

Miscellaneous.—An excellent crop of white wax was harvested in Ssuchuan in 1906, the season being particularly favourable and the insects (*Coccus pela*) abundant. The export was 6,747 cwts., against 5,072 cwts. in 1905, and was 25.55% in excess of the average of the previous five years. The bulk of the export goes to Hong Kong, whence it is distributed in Southern China. Varnish advanced from 7,897 cwts., of the value of £51,727., to 9,213 cwts, valued at £55,014. Nearly the whole of the export goes to Japan, which in 1905 took 7,324 of the 7,897 cwts. Alum has fallen off in quantity and value, while gypsum has advanced in both. Safflower, whose export in 1905 amounted to only 90 cwts., rose to 107 cwts., but the aniline dye has already done its work. The export twenty years ago was nearly seven times that quantity, and the dye is going out of cultivation in Western China. Animal tallow increased from 3,996 to 7,069 cwts., and in value from £4,782. to £7,877., while lard (pork fat) advanced from 57,191 to 59,276 cwts., valued respectively at £100,339. and £119,976. The bulk of this lard goes from the Canton delta and Shanghai to Hong-Kong, where part of it is used in the manufacture of soap.

Asbestos rose in value from £5,913. to £6,704. Gasolene, benzine, naphtha, petrol, etc., rose from £1,203. to £6,844, (Shanghai absorbing £4,170. of the total). Glue rose in value from £20,094. to £23,668. Saltpetre rose from £85,224. to £91,627. (more in quantity, but less in silver value).

The following sundry imports fell in value :—Betel nuts from £41,018. to £33,562.; gums (myrrh, libanum, etc.) declined from £9,572. to £9,166.; liquid fuel, from £4,176. to £1,688.; engine oil from £62,163. to £12,519.; perfumery from £39,473. to £34,570.; soda from £85,588. to £75,503.

Glass.—China is preparing to supply some of her own wants in the matter of glass. A glass works, with foreign plant, is being erected at Su-Ch'ien, on the Grand Canal, capable of turning out 40,000 bottles and 150,000 sq. feet of window and rolled glass in 24 hours.

Kerosene Oil.—The following is a comparative statement of the imports of kerosene oil :—

	Quantity.			Decrease or Increase in 1906 compared with—	
	Average, 1901-05.	1905.	1906.	1905 (quantity)	Average, 1901—05.
Kerosene oil—					
American .....Gallons	56,243,570	80,046,136	62,910,989	- 17,135,147	+ 11·85
Borneo ..... ,,	2,597,970	11,105,553	26,934,219	+ 15,828,666	+ 936·74
Burma ..... ,,	—	1,154,906	42,460	- 1,112,446	—
Russian ..... ,,	20,284,809	12,710,049	—	- 12,710,049	—
Sumatra ..... ,,	43,733,671	48,455,187	38,800,022	- 9,655,165	- 11·28
Total ..... ,,	122,860,020	153,471,831	128,687,690	- 24,784,141	—

The decrease in the import of kerosene oil from 153,471,831 gallons in 1905 to 128,687,690 gallons in 1906 is due, not to decreased consumption, but to heavy stocks held over at the end of 1905. American oil fell off by 17,135,147 gallons, Sumatran by 9,655,165 gallons, Burmese by 1,112,446 gallons Burma's contribution was only 42,460 gallons, and, by agreement, will soon disappear altogether. In the case of Russian oil there was a re-export of 334,000 gallons in excess of the import of 1,190,280 gallons. Borneo sent 26,934,219 gallons against 11,105,553 gallons in 1905, and 2,597,970 gallons the average of the preceding five years. The total value of the net import of all kerosene oil in 1906 was 12,578,723 Haikuan taels (£2,070,248.).

Exports.—The following were the principal articles of export in order of value :—

	Value.	
	Currency. Haikuan Taels.	Sterling. £.
Vegetable oil	4,805,173	800,726
Sesamum seed	4,512,602	742,699
Tin	3,478,834	572,558
Camphor	1,310,771	215,734
Iron, pig (manufactured and ore)	1,129,706	185,931
Tallow, vegetable	1,057,401	174,830
Nut-galls	975,597	160,602
Seed cake	856,153	140,908
Oils, essential	662,648	109,061
Cottonseed	522,325	85,966
Groundnuts	453,712	74,673
Antimony and antimony ore	390,221	64,224
Rape seed	383,169	63,863
Varnish	334,264	55,014
Zinc and zinc ore	97,457	16,039
Chinese ink	92,255	15,183
White alum	60,888	10,021
Lead and lead ore	55,196	9,084
Animal tallow	47,862	7,877
Gypsum	35,399	5,826
Quicksilver	24,315	4,002

The following were the principal exports from China to Europe and America :—

	Quantity.			Increase or Decrease in 1906 compared with	
	Average 1901-05.	1905.	1906.	1905. (Quantity.)	Average 1901-05.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Nut-galls	48,825	51,332	69,142	+ 17,810	+ 41.61
Oil (bean, tea, groundnut, wood, etc.)	505,039 Lbs.	511,937 Lbs.	661,392 Lbs.	+ 149,455 Lbs.	+ 30.95 Lbs.
Oils, essential	529,593 Cwts.	611,066 Cwts.	945,200 Cwts.	+ 334,134 Cwts.	+ 78.47 Cwts.
Sesamum	574,240	685,382	1,273,997	+ 588,615	+ 121.85
Tallow—					
Animal	43,488	3,996	7,069	+ 3,073	- 83.74
Vegetable	116,617	80,092	135,784	+ 55,692	+ 16.43
White wax	5,374	5,072	6,747	+ 1,675	+ 25.55

The value of the export of Chinese produce to foreign countries in 1906 amounted to 236,456,739 Haikuan taels, or expressed in gold at the high rate of exchange ruling during the year, 38,916,838 against 227,888,197 Haikuan taels (£34,278,183.) in 1905, an increase of £4,638,655. in gold, but of only 8,568,542 Haikuan taels in silver.

(To be continued,)

SOCIETY OF CHEMICAL INDUSTRY: *London Section.*—A meeting of the Section will be held at the Chemical Society's Rooms, Burlington House, Piccadilly, on Monday, December 2. The following papers will be read and discussed :—(1) "The Estimation of Naphthalene in Coal Gas and in Spent Oxide of Iron," by C. J. Dickenson-Gair. (2) "Note on the Influence of Formal on the Properties of Funtumia Elastica," by Dr. P. Schidrowitz and F. Kaye. (3) "The Polarimetric Determination of Sucrose," by Dr. F. Watts and H. A. Tempany. (4) "Niam Fat," by Dr. J. Lewkowitsch. The meeting will commence at 8 p.m.

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SPANISH TRADE IN 1906.

MALAGA.

In his report on the trade and commerce of Malaga for the year 1906, Mr. Consul Haggard states that the year was a disappointment, owing to the fall in exchange and the failure of the fruit crops, the latter being due to a prolonged drought coupled with a season of floods. The increased value of the peseta (about 25% with regard to British currency) facilitated imports in general.

Olive oil turned out an utter disappointment to all concerned, the yield being 500,000 arrobas as compared with 1,000,000 arrobas in 1905. Exports have been nil, as the whole production is required for home consumption. Prices at the same time have risen higher than for many years past. In the early part of the season prospects were favourable; but later the olives began to fall off the trees in considerable quantities, whether from the influence of the previous drought or from storms cannot be said, but probably both these circumstances contributed to the disappointing year. For the last two years, trade in sulphur (olive) oil for soap making has been almost at a standstill owing to the poor crops, and the small quantities produced have been taken up by the home industry at prices far above those offered by foreign markets; 1907 promises a good crop, and even if only 10% of the blossoms now showing give fruit, farmers are looking forward to a good year in this article.

Statistics of minerals in general are impossible to obtain, though, according to reports from shippers, trade in iron ore has decreased during the present year. An increased demand is perceptible for steatite (French chalk), of which there are mines being worked by a British firm within a few miles of Malaga. The mineral is being exported both in powder and in the unground state, which latter seems to find a good market, owing to the colour and quality of the stones.

The demand for British cement is almost nil, owing to its high price compared with that from the South of France, and from Belgium and Germany. Spain also is starting this industry in the north, and although the quality turned out is not to be compared to British, still the price offered is no inducement to the importation of British cements. The local company (Sociédad Hidro-Eléctrica del Chorro) is also about to complete a plant for the manufacture of cement, which will most probably cut down importation considerably.

The following were the principal imports into Malaga during 1906, as compared with 1905:—

	Quantities. 1906. Tons.	1905. Tons.	Increase or Decrease in 1906.
Tin	7	22	− 15
Copper, copper wire and nails	100	161	− 61
Oils, paints and pigments	393	251	+ 142
Sulphates of potash and ammonia	13,332	18,330	− 4,998
The exports were:—			
Soapstone	298	10	+ 288
Ordinary lead	35,684	40,264	− 4,580
Argentiferous lead	6,553	7,968	− 1,415
Olive oil	2,090	14,449	− 12,359
Iron ore	65,973	100,615	− 34,642

MAZARRON.

Mr. Consular-Agent Pearce reports that 14,970 tons of dry and manganiferous iron ore were exported to the United Kingdom and 13,470 tons to the Netherlands for Germany in 1906, being a total of 28,440 tons, whereas the total for the previous year was 34,980 tons, showing a decrease of 6,540 tons. The reason can be traced chiefly to the paralysis of mining operations in the Morata mines, and also to the fact that several other mines in this district are nearly worked out. The only part of the district where there is still any probability of obtaining considerable quantities of iron ore is at Morata, where, however, enterprise and capital are not forthcoming.

The lead works here produced 15,257 tons of silver-lead and 5,851 tons of soft lead in 1906; of these, 10,281 tons of silver lead and 5,851 tons of soft lead were shipped to Antwerp for the desilverising works at Hoboken, and 4,976 tons of silver-lead to those of Carthagena. In 1905 the production was 18,724 tons, of which 14,869 tons were shipped to Antwerp and 3,855 tons to Carthagena. The total output of the Mazarron lead mines in 1906 was approximately 592,300 quintals (29,600 tons), as compared with 650,500 quintals (32,500 tons) in 1905, *i.e.*, a decrease of 2,900 tons, which would indicate that some of these mines are getting worked out. A table shows the approximate output of each mine which was being worked in 1906, compared with that of 1905.

ALMERIA.

Mr. Vice-Consul Murison reports that the shipment of copper ore amounted to over 1,230 tons, an increase over last year of 840 tons, the greater part of which has been extracted from the mines being worked for calamine and lead ore, as stated in the report of last year.

The chief imports into Almeria were:—

	From United Kingdom. Tons.	From Other countries. Tons.
Bog ore	—	50
Bones, calcined	—	20
Cement	133	3,212
Chemical products	562	387
The exports were:—		
Iron ore	329,540	86,100
Lead	2	268
Zinc	—	8,138
Copper	17	1,214
Salt	1,470	30,716
Ochre	14	—

AGUILAS.

Mr. Vice-Consul Neftel reports that the exports of iron ore from Aguilas were some 40,000 tons over the figures for the previous year, due chiefly to the increase in shipments from El Hornillo, where 86 steamers loaded as against 41 at Aguilas. The United Kingdom took about the same quantity as during the previous year, but for the Netherlands the total was 39,530 tons, against 2,500 tons in 1905. With the extension of bunker room now completed at Hornillo, and the improvements at present being made in the port of Aguilas for more rapid loading, it is confidently expected that the export for 1907 will be greatly increased.

LINARES.

Mr. Vice-Consul Power reports that the exportation of lead ores and pig lead from this district amounted to 79,110 tons of the former and 56,940 tons of the latter. The total quantity of lead sheets, pipes, and shot exported by the three local works was 1,492 tons as against 2,062 tons in 1905, being a decrease of 570 tons. The total quantity of lead ore produced by the various mines in the district amounted to 149,146 metric tons. The average value of soft foreign lead in London in 1906 was £17. 7s. 3d. per ton as compared with £13. 15s. in 1905, which represents a rise of £3. 12s. 3d. per ton. The quantity of silver produced in the district as ingots may be estimated at 600,000 ozs. The price of silver showed a further rise during the year to an average price of 2s. 6.82d. per oz. for fine silver.

The total quantity of iron ore exported by the various mines in the province amounted to 72,465 tons.

ADRA.

The exports of lead from Adra were, in pigs, 1,214 tons; galena (lead ore), 88 tons.

THE SOAP TRADE OF BULGARIA.—This import is a considerable one, as the home industry is not yet in a position to supply the country's requirements. Marseilles washing soap is on the market at 58 francs, f.o.b. Marseilles, per 100 kilos., this being the most formidable competitor with the British product. Ordinary toilet soap is produced in sufficient quantities by the native industry, but there is a good deal to be done in the medium and finer kinds.

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NITRATE OF SODA.

THE financial crisis in Chili is still acute, but little nitrate now remains in weak hands, and the pressure of needy holders being removed, prices have recovered to some extent. This year's shipment is quoted nominally about 8s. 6d. per quintal, f.o.b., compared with 9s. a twelvemonth ago. The Continental markets, although firmer, have not risen in proportion, spring delivery being quoted 11s. per cwt. in Hamburg, while spot is offered at 10s. 9d.; navigation on the Elbe, for some time hindered by low water, has now been resumed, and nitrate will be sent up to Magdeburg for storage, but the demand for account of consumers is still in abeyance, and the country dealers are in no hurry to buy forward. The only business passing is therefore between importers and the large speculative dealers in Liverpool, Hamburg, Antwerp, and Dunkirk. The last-named port, although it had a stock of 41,000 tons at the beginning of the month compared with 32,000 tons last year, has just received five more cargoes, the "financing" of which is under present circumstances easier there than in Hamburg. Referring to the "allegation" (*sic*) in this *Journal*, that large stocks of nitrate were accumulated in Chili, Sir Robert Harvey at Tuesday's meeting of the Lagunas Syndicate stated that the accumulation was due merely to the delay in arrival of shipping; ships were now arriving in considerable numbers and stocks were rapidly falling. This means that a much larger quantity of nitrate will be shipped to Europe within the next three months than in the corresponding period. Apropos of synthetic nitrate, Sir Robert assured the shareholders that it is so deliquescent as to have little practical value. Nevertheless some 40 pages were devoted to the subject in the last quarterly circular of the Iquique Propaganda Association!

ANTIMONY IN ASIA MINOR.

ANTIMONY ore is to be found almost everywhere throughout the N. W. portion of Asia Minor. It is of very pockety formation, and usually occurs in fissure lodes, accompanied with iron pyrites. The ore is very pure, and carries 70% of metallic antimony. The considerable fluctuation in the value of the ore is the chief reason why the production of antimony is neglected, as, owing to the difficulties of transport, it is almost impossible to deliver the ore at under $44. per ton.

With the exception of the Djinli Kaga, no machinery has been used to facilitate the production of antimony. On the Djinli Kaga mines there is a very imperfect dressing plant capable of treating 40 tons of ore a day with a loss of about 30% of the pure ore in slimes and waste. The ore from Turkey is nearly all shipped to England from Smyrna. The present value of 50% ore is about $88. a ton, but prices have sometimes gone as high as $176. The total production of the mines during 1905, according to a U.S. Consular Report, was 450 tons, of which 350 were from Djinli Kaga, and, during 1906, 830 tons, of which 780 were from the same place.

The present tendency of the antimony market is downward, and it is to be expected that, with a limited consumption of metal and a practically unlimited supply of ore, the values will very soon come back to $44. or $52.80. per ton. It has generally been the case that after every long depression there is a sudden rise in prices, which creates activity among the producers, to be followed again by another long period of low values. The average cost of producing this ore is about $44. per ton, so that usually the depression lasts as long as the mines can hold out working at a loss. The transport of antimony ore is generally made on camel back, and costs about 12 cents per ton per mile. The cost of labour is, for expert miners, 50 to 75 cents per day; timbermen, 75 to 87 cents per ton; ordinary labour, 25 to 37 cents per day. The Government charges a royalty of 5% on the gross value of the ore and a 1% customs duty. As a rule the antimony found in Turkey is free from impurities, such as arsenic or lead. The ore, however, rarely carries gold.

THE SIR JOHN CASS INSTITUTE.—The prizes and certificates won by the students of the Sir John Cass Institute, Jewry-street, Aldgate, will be distributed on Tuesday next, December 3, by Dr. R. T. Glazebrook, D.Sc. The chair will be taken by Sir Owen Roberts.

THE FOREIGN TRADE OF FRANCE.

ACCORDING to official returns recently issued, the imports into France during the first six months of 1907 amounted to £123,765,000., compared with £113,949,000. during the corresponding period of 1906, while the exports amounted to £110,424,000. against £100,957,000. The imports thus show an increase over exports of £13,341,000. Classified under the three chief sub-divisions they compare as follows with the corresponding period of 1906:—

	1907. £	1906. £
Food products ..	19,193,000	15,656,000
Raw material	82,336,000	78,548,000
Manufactures	22,236,000	19,745,000
Total	123,765,000	113,949,000

Thus showing a gross increase of £9,816,000., *viz.*, £3,537,000. in food products, of £3,788,000. in raw material, and £2,491,000. in manufactures.

The following were the principal articles of imports into France during the years 1905-06:—

	1905. £	1906. £
Olive oil	636,000	916,000
Oil seeds and nuts	7,704,000	9,248,000
Copper	4,324,000	6,588,000
Minerals of all kinds ..	4,208,000	3,926,000
Nitrate of soda	2,232,000	2,736,000
Mineral oils	2,456,000	2,120,000
Lead	916,000	1,036,000
Tin	1,312,000	1,384,000
Guano & chemical manures.	452,000	571,000
Zinc	716,000	816,000
Sulphur	532,000	528,000
Seeds	324,000	447,000
The exports were:—		
Fats	848,000	952,000
Olive oil	324,000	395,000
Chemicals	4,588,000	4,812,000
Copper and copper ore ..	1,544,000	2,054,000
Oils	1,036,000	1,212,000
Seeds	1,340,000	1,136,000
Oil cake	924,000	968,000
Saffron	136,000	137,000
Dyewood extracts	492,000	604,000
Perfumery	712,000	768,000
Colours	572,000	652,000
Soap	548,000	556,000

The imports from the United Kingdom during 1905-06 were:—

	Value. 1905. £	1906. £
Chemicals and chemical manures	913,000	888,000
Copper	395,000	588,000
Coal tar	275,000	300,000
The exports from France to the United Kingdom were:—		
Copper and copper ore ..	554,000	674,000
Chemicals	699,000	639,000
Oils—Essential	139,000	90,000
Other	221,000	282,000
Caoutchouc	533,000	858,000
Perfumery	159,000	192,000

The following table shows the principal imported articles of raw material:—

	Values. Six months, 1907.	Decrease or increase compared with 1906
Wood pulp	1,199,000	+ 48,000
Nitrate of soda ..	1,664,000	− 14,000
Oleaginous seeds ..	5,902,000	+1,078,000
Vegetable oils	713,000	+ 53,000
Mineral oils	1,460,000	+ 459,000
Minerals	2,107,000	+ 186,000
Copper	2,905,000	− 538,000

THE NOBEL PRIZE FOR CHEMISTRY.—The Stockholm *Dagens Nyheter* states that the next Nobel Prize for chemistry will be awarded to Sir William Crookes.

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Continental Notes.

AN account of the proceedings of the General Meeting of the Verein Deutscher Chemiker, held at Lübeck in September, appears in *Die Chemiker Industrie* for October 1. The first item on the agenda was the report on the economical condition of the chemical industry in 1906. The General Secretary, O. Wenzel, reported that trade had been very good during the year, not only in Germany, but also in the United States, in Great Britain, France, Russia, and other countries. Only in the case of Japan was there a considerable diminution in the imports and exports. The general prosperity of the country was increased by good harvests and rising prices for agricultural produce. The rates of dividends on the shares of limited companies also showed an improvement. Amongst the other subjects which were discussed at the meeting was the creation of a chemical "Reichsanstalt," to which the Society promised a donation of 500,000 marks. Of this sum more than two-thirds had been collected. The meeting expressed itself in favour of the foundation of this institution for the assistance of chemical investigation, although a few of the members did not consider that the money was being laid out to the best advantage. They thought that better results would be obtained by the formation of a fund from which to subsidise chemical research. Another similar subject which came on for discussion was the erection of an institution for industrial hygiene. It is intended to erect this institution in Frankfort, and a small limited liability company has been formed with a capital of £5,000. to conduct it. Here all questions relating to the health and safety of workmen will be studied, books and statistics will be collected, and manufacturers will be able to consult the officials on payment of fees, which will be very small in comparison with the risks that are involved in accidents and interruptions in manufacture.

Dr. Weigelt presented his report upon the investigations he has carried out concerning the treatment of effluents. He again laid stress upon the fact that large and swift streams have a great power of taking up impurities without being perceptibly polluted, but in the case of smaller streams it is absolutely essential that the waste waters led into them shall first be properly purified. It is still an undecided point whether settling tanks ought to be shallow or deep. The material of which filters should be constructed is also a matter of controversy, but Weigelt is in favour of coke, as it can afterwards be burnt as fuel, and the deposit is thereby entirely destroyed. Instead of fixed filters, it is often advantageous to introduce fine solid matter, such as ground charcoal impregnated with iron hydroxide, to carry down the suspended solid matter.

The meeting also expressed itself in favour of the reduction as far as possible of Sunday work, although it recognised that in many cases this cannot be entirely avoided.

In the issue of *Die Chemische Industrie* for October 15 there is a description of an ingenious respirator for administering oxygen. In cases where the lungs are working there is, of course, no difficulty in stimulating the patient by means of oxygen, but where the breathing has practically ceased the oxygen cannot be got into the lungs by ordinary means. An automatic respirator has, however, now been devised by Dr. Brat, which alternately sends the oxygen into the lungs by pressure and draws out the expired gases, the compressed oxygen in the cylinder supplying the necessary energy for creating the vacuum and operating the valves. With such an apparatus it is easy to apply artificial respiration for hours if necessary. It has already been adopted in many mines and large chemical works.

The same issue contains two theoretical papers concerning the manufacture of soap, by Dr. Rohland and E. Fischer respectively. The principal point dealt with is the property of caustic alkalies to bring about the coagulation of strong soap solutions. According to Rohland, this is due to the attraction between the electric charge on the hydroxyl ions and the colloidal particles of soap, but Fischer considers it is rather due to the greater mobility of the ions in the case of the caustic alkalies. Whatever may be the proper explanation, it is certainly a very curious fact that soap is coagulated so readily by an excess of caustic. By the use of carbonate instead of caustic, the soap boiler is able to keep his charge under better control. This, and many other phenomena in connection with soap making, calls for further investigation, and will be best studied by the methods of physical chemistry.

In the issue for November 1 there is a report of the proceedings of a conference of the medical officers of chemical works, which was called by the Trade Guild for Chemical Industry, in order to consider the question of collecting statistics and data relating to the injuries caused to the health of the workers. The principal object is to disprove the exaggerated statements that appear from time to time in the Press, but the measures to be taken to prevent unnecessary injury to health will also be considered. An executive committee of four was appointed to deal with the matter.

Reports of Companies.

CASTNER-KELLNER ALKALI CO., LTD.

The ordinary general meeting of shareholders was held on the 21st inst., the Right Hon. G. W. Balfour presiding. The Chairman said that the directors had great satisfaction in meeting the shareholders at the end of a year of prosperity unexampled in the previous history of the company. The net profit amounted to £116,754., and that was the first time they were able to show a profit of six figures. Adding the amount brought forward, and deducting the debenture interest and the interim dividend paid last March, they were left with an available balance of £103,830., which the directors proposed to appropriate as follows:—£30,000. to depreciation reserve, to write £15,910. off plant and machinery account and £7,500. off suspense account, and to apply £36,000. in paying a dividend for the six months ended September 30 last, leaving £14,420. to be carried forward. The directors were unanimously of opinion that it would not be wise to place less than £30,000. annually to the credit of ordinary depreciation, but this sum did not include what was described in the report as the usual expenditure in keeping up the works, plant, and machinery to the highest state of efficiency—a large amount, which was deducted before arriving at the figure of net profit. Moreover, in the present year the directors proposed that a sum of nearly £16,000. should be written off plant and machinery, representing loss on the realisation of old plant not now required, because, with the progress of invention, they had been able to replace it by other plant which would do the same work at very considerably less cost. Of course, changes of that nature could not be made without considerable apparent loss of capital, but in these days the courage to "scrap" old plant was, perhaps, of all the qualities required in the management of an industrial company the most essential. With reference to the £7,500. written off suspense account, that account was in reality an experimental account. Experiments were sometimes fruitful and sometimes unfruitful, but they were invariably costly. There, again, however, a company like theirs, which was not prepared to spend money on experiments, was likely to be left behind. The total amount of interest payable on the debentures for the year was covered, with about 50% to spare, by the £14,000. it was proposed to carry forward, so that the year's net profit had covered the debenture interest about twelve times over. As usual, £5,000. had been applied to redeeming debentures. He urged the shareholders not to regard the dividend of 12% which they were to receive for the past year as necessarily a standard for future distributions. While, however, he said that by way of warning, he thought he might safely state that at no time had the position of the company been stronger than it was at present. In conclusion, he proposed a resolution for the adoption of the report and accounts, and the payment of the dividend therein recommended.

Mr. George T. Beilby, F.R.S., seconded the motion, which was carried unanimously.

SALAR DEL CARMEN NITRATE SYNDICATE, LTD.

An extraordinary general meeting of shareholders was held on the 21st. inst., Mr. W. T. Morrison presiding, to consider resolutions for dividing the existing £5. shares of the company into five fully paid up shares of £1. each, and for making certain alterations in the articles of association.

The Chairman, in proposing the resolutions, said that on the last occasion when he addressed the shareholders he referred to the fact that the directors had requested their agents on the coast to appoint two of the best experts obtainable to examine and report on the grounds and plant at the oficina. They advised them that the Company's plant and machinery were in perfect order, and that the grounds were to-day estimated to contain

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raw material (including caliche and costra), from which upwards of seven million quintals of nitrate of soda might be extracted. Including the five million quintals already taken out of the grounds, this was two million quintals or approximately 100,000 tons more nitrate of soda than the property was originally estimated to contain. This result confirmed the statements, made to the Board, of important discoveries on the Company's property, by which the "life" of the oficina would be considerably prolonged. Inasmuch as this augmentation of their resources would justify them in making application for an increased quota in the new combination, some new plant had been ordered which would enable them still further to support their claim. The prospects of the coming year were extremely satisfactory. An interim dividend of £1. a share had been paid, and there was every reason to believe that the next dividend would be entirely satisfactory. The circular accompanying the notice explained the objects of the alterations in the articles of association.

Mr. A. Naylor seconded the motion, which was carried.

SANTIAGO NITRATE CO., LTD.

The annual meeting of shareholders was held on Wednesday last; Mr. Henry W. Lowe presiding. In moving the adoption of the report and accounts, the Chairman said the shareholders would be glad to notice that the result of the year's working was more favourable. The gross profits were £65,867., as against £58,484., notwithstanding that they produced 56,000 fewer quintals and that the cost of production was slightly higher. There was a net profit of £55,764., and after payment for repairs, etc., the sum available was £36,642., which was about £16,000. more than the estimate formed a few weeks ago. They proposed to pay a dividend of 10%, and to carry forward £16,642. They had paid off the whole of their debentures, and there would be no drag on future profits. No doubt some felt it a hardship that last year they paid no dividends, and placed £27,000. to the reserve fund, but in view of the financial crisis in Chili at the present time the course taken was of the first importance. They had put the company on a sound footing, and the average price of their sales was much above that of last year, so that altogether the prospects before them were most favourable. Without committing himself to any definite statement as to next year's dividend, he thought it could not be less than double what they now proposed. He understood that at a low estimate the life of the Santiago grounds was about fifteen years, though their manager considered it was twenty years. The prices of nitrate were lower now, but if they did not rise there would still be left a satisfactory profit, and he would be content if they never went any higher. It was sad that there was so much financial embarrassment in Chili, but the company was not affected.

NOBEL DYNAMITE TRUST.

An extraordinary meeting of shareholders was held last week, for the purpose of authorising an alteration in the articles of association previous to raising the capital of the company by £500,000. in preference shares to provide additional working capital for the subsidiary companies. Sir F. Anstruther, who presided, stated that the alteration was in effect that the preference shareholders might at any time, by resolution passed by them by a majority of not less than three-fourths, consent, on behalf of all the holders of preference shares, to the creation of issue ranking equally therewith, and such resolution shall be binding upon all holders of preference shares. He concluded by moving the necessary resolution, which was seconded by Lord Ribblesdale and agreed to.

Chemical Trade Openings in Bulgaria.—The measures which are being taken by the Bulgarian Government to foster agriculture have resulted in an increase in the demand for agricultural manures. There is still much to be done by way of instructing the uneducated farmers in methods of intensive cultivation, but the Agricultural Department has appointed numbers of travelling inspectors, who act as instructors of modern methods, and who are gradually introducing chemical fertilisers. Agricultural schools have been founded; also colleges for practical courses in fruit, wine and silk cultivation, and bee keeping, all of which are worth the attention of the seller of such goods. In addition to chemical manures, it is apparent from the import trade returns that there is much to be done in sulphate of copper, tartaric acid, citric acid, caustic and washing soda, saltpetre, sulphuric acid, and acetic acid.

Analytical Notes.

THE DETERMINATION OF INSOLUBLE MATTER.*

L. G. Eakins (*West. Chem. and Met.*, III., pp. 120-121) has described the methods in use at the Colorado plants of the American Smelting and Refining Company for the determination of insoluble matter. The methods used in the laboratories may differ somewhat in unimportant details, but in general are as follows:—Unless there is some special reason otherwise, one-half gramme is taken in all cases for the determination.

Sulphides.—Treat in a small beaker, with strong nitric acid, 7 to 10 c.c. Heat gently until strong action has ceased. Evaporate to dryness and bake until free from acid. Cool, add about 20 c.c. hydrochloric acid (one part acid and one part water) and heat until solution is as complete as possible. Filter; wash first with hot, dilute hydrochloric acid, then hot water. Ignite and weigh.

Occasionally, some ores high in zinc or lead sulphide may be treated to advantage first with hydrochloric acid, and then following as above, but the result should be the same in either case if properly carried out.

Oxidised Ores in General.—Treat with strong hydrochloric acid, 7 to 10 c.c. Boil until dissolved; add a little nitric acid (½ c.c. is usually plenty); evaporate to dryness and bake to the complete expulsion of acid fumes. Cool; take up with hydrochloric acid and proceed as with sulphides.

With some ores containing carbonaceous matter, it may be necessary to bake for a long time, as such residues often hold acid tenaciously. In the case of Leadville manganese oxides, nitric acid is omitted entirely.

Leady Oxide Ores.—Some of these, such as Midas and Percy La Salle, usually yield gelatinous silica and must be carefully de-hydrated at not too high a temperature.

Oxidised Material which has been strongly ignited.—This covers such products as Cripple Creek concentrates. Digest with hydrochloric acid without boiling at first, then evaporate nearly to dryness, add a few drops of nitric acid, and evaporate to complete dryness. Occasionally it may be necessary to repeat this treatment, which is a matter of individual judgment. Finally bake to complete expulsion of acid and proceed as before.

Roasted Ores, Acid Works' Residues, etc.—Digest with hydrochloric acid, without boiling until the oxidised portion is dissolved; add 2 to 3 c.c. of nitric acid, boil to decompose sulphides, evaporate to dryness, and proceed as before.

Ores or Products containing Magnetite.—Some mixed oxidised and sulphide ores, such as the Ibex and other Leadville ores, and also often furnace mattes, contain magnetite. When this is known or suspected, the material is treated as above under "Roasted Ores, etc.," except that nitric acid in larger quantity may sometimes be necessary.

Barium Sulphate Ores.—Treat with 10 c.c. hydrochloric acid (one part acid and one part water), boiling a few minutes, add to 5 c.c. nitric acid, and after action has ceased evaporate to dryness. Bake and proceed as usual.

After total insoluble is weighed, fuse with sodium carbonate or mixed carbonates, digest the melt with water until disintegrated, filter and wash. Wash out the fusion crucible with 3 to 5 c.c. hydrochloric acid (one to one), and with this dissolve the residue on the filter, being careful that the residue is all dissolved and the filter washed clean. Precipitate the barium in boiling solution with a slight excess of dilute sulphuric acid, and allow to stand at least two hours before filtering. The barium sulphate so obtained is deducted from the total insoluble residue.

Precautions.—Care must be taken to insure the removal of all lead salts from the insoluble residue. Filtrations should be conducted rapidly and with hot solutions, in which case washing with hot dilute hydrochloric acid is perfectly safe. However, washing with hot ammonium chloride or acetate solution is often used and has no objections. This removal of lead needs special care in barium sulphate ores, as this latter seems to render the complete solution of the lead salts more difficult.

THE DETERMINATION OF ZINC OXIDE.*

A method for the separation and determination of zinc oxide in zinc-white, zinc-dust, paints and lithopone is described by J. Tanibon in *Bull. Soc. Chim.* (Vol. 1, 1907, pp. 823-829). The principle of the separation depends on the solubility of zinc

* *From* the *Engineering and Mining Journal* (New York).

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oxide in a solution containing ammonia, ammonium chloride, and ammonium carbonate. The following procedure is applicable in the separation of zinc oxide from zinc-white. A 10 gramme sample is shaken for several minutes in a stoppered flask containing 300 c.c. of an ammoniacal solution composed of equal volumes of ammonia (22° B.), 20% ammonium carbonate solution, and 20% ammonium chloride solution. The residue insoluble in this solution is washed with ammonium carbonate, boiling water, and finally with alcohol. The difference in weight from the amount originally taken is the weight of the zinc oxide, which may be titrated if desired by sodium sulphide solution. The same method may be applied to the determination of zinc oxide in zinc dust. Products such as lithopone, which contain salts soluble in water, are boiled therein and the sample is dried and weighed again before the alkaline leaching solution is applied.

THE CLASSIFICATION AND USES OF CEMENT.*

BY SAMUEL S. SADTLER.

WITH a view of classifying and studying the subject of cements, the writer has prepared the following discussion. The subject is such a broad one, embracing a wide range of chemicals and raw materials, that the scope of this paper cannot go beyond a general treatment of the question.

Besides cements in the narrow sense, there are other preparations which may also be defined and discussed.

A *cement* is a plastic or liquid substance used to join surfaces. It becomes firm or solid on setting.

A *lute* is a plastic material used for preventing or stopping leaks, and is generally used for temporary purposes. Its setting is usually of such a character that it may be easily removed.

Pastes and *mucilages* are fluid substances used for uniting paper and cloth, or fastening them to surfaces such as wood or metal.

The purposes for which this class of substances are employed are so many that there is hardly any line of work that is not in a notable measure depending upon them. It is difficult to recall any industry not requiring one or more of them.

Wood workers, masons, plasterers, plumbers, bookbinders, machinists, the metallurgical industries, manufacturers of chemicals, all industries where power is a large factor, are constant users of cements.

It can hardly be said that there is any dearth of information as to what might be used in special cases, or that there is any difficulty in procuring suitable materials for compounding, but it has been thought desirable to treat the subject in a systematic way. This might help persons to choose a cement, to compound it, and to get the best results in its use.

The fact is that there are hundreds of formulas published for making cements, where dozens would serve if careful selection were made by someone, and the result properly classified. Of those now published, too much is claimed for some, others are practically impossible, a large number are unnecessarily complicated or use expensive elements where cheaper ones would serve. These substances may do the work required, but simpler ingredients naturally suggest themselves, and the old formulas should be revised accordingly, provided tests show that the changes are safe ones to make.

SETTING.

To properly use cements it is quite important to understand the rationale of their action. With this knowledge, if the action characteristic of its setting does not proceed satisfactorily, modifications of temperature, dilution or proportions may be made, and much trouble saved thereby.

The phenomena of setting may be differentiated as follows:—(1) Evaporation, loss of water, or other solvent. (2) Hydration, taking on the elements of water. (3) Cooling. (4) Oxidation. (5) Vulcanisation. (6) Ordinary chemical action. (7) Combination process.

(1.) *Evaporation.*—In cases where setting takes place by evaporation, there are various considerations to be noted in respect to both solvent, solute materials, and insoluble filler, if any.

The chief consideration is, of course, as to whether the materials in solution or combined solution and suspension, are chemically and physically resistant to solution, corrosion or abrasion incident to their use. This matter is, however, too full of detail to be taken up at this time. As to the solvent, however, something may be said here.

Layers of cement should not be so deep as to seriously hinder evaporation, especially if the solvent is water. When water is used, unless the time of setting is not important, heat is generally present to expel it, or some corrective filler used, such as Portland cement or plaster. As the solvent goes off cracks are likely to develop if the mixture is too thin. Fibrous materials such as noted below under the head of fillers are useful for holding it together, and if the body of the cement is of soft material such as oils or soft pitch, it is especially desirable to have some inert filler present, whether fibrous or not. When the solvent is not water, choice of various organic solvents can often be made. In general, methyl (wood) alcohol and ethyl (grain) alcohol dissolve soaps, free organic acids, and some of the resins, while the other solvents dissolve, more or less perfectly, fats, oils, some resins, pitches, and asphalt.

The most important solvents are here given in the approximate order of volatility (with boiling points), solvent power and cost:

Volatility.	*Solvent Power*	*Cost.*
Sulphuric ether .....35°C.	Sulphuric ether	Sulphuric ether
Carbon di-sulphide.....46° "	Chloroform	Ethyl alcohol
Acetone .....56°C.	Carbon di-sulphide	Chloroform
Chloroform.....61°C	Carbon tetrachloride	Acetone
Methyl alcohol .....66°C.	Turpentine	Carbon tetrachloride
Carbon tetrachloride ....78°C.	Glacial acetic acid	Glacial acetic acid
Benzol.....80°C.	Benzol	Turpentine
Petroleum benzine ...100-150°C	Toluol	Denatured alcohol
Toluol .....111°C.	Acetone	Wood alcohol
Glacial acetic acid.....119°C.	Petroleum benzine	Benzol (straw colour)
		Toluol (straw colour)
Turpentine .....156°C.		Benzine
	Methyl alcohol	
	Ethyl alcohol	

A great deal could be said about these solvents. Each one in turn may be the best for certain substances. The classification as to solvent power is very crude, but may be of use at times.

Most of these substances are extremely inflammable, and form explosive mixtures with air. There are two notable exceptions, however—chloroform and carbon tetrachloride—especially the latter; it will neither burn nor support combustion.

(2.) *Setting by Hydration.*—In this case crystalline substances form *en masse* by the taking up of water. It is desirable to have as nearly the total amount of water required as possible to secure the greatest density and strength. There should not be too much inert material present to keep the particles of the setting substance apart. The more finely divided the inert material, the less can be used, as the particles of the cement itself must coat all the particles of inert material, or be between them to effect a bond. If the particles of inert material are of the same degree of fineness only an equal amount, as compared with cement, can be used. When properly graded as to fineness, from five to eight times as much by volume of the filler may be used.

The time for setting may be somewhat reduced by using warm water, and very little, if any, excess, and may be retarded by having an excess and by the use of small amounts of certain chemicals; alkaline substances, for instance, delay the setting of Portland cement and plaster. In some cases the entire amount of water cannot be used at once, or it dries out somewhat, so that subsequent wetting is necessary.

(3.) *Setting by Cooling.*—In this class are considered cements and lutes which are applied in the melted state, such as resins, waxes, bituminous bodies, solid fats, and sulphur. The great advantage of using materials in this way is that there is no loss in density, as is generally the case where the setting takes place by evaporation. The work they are applied to should be hot, however, or the setting is interfered with.

If the pieces of apparatus to be joined are small, it is usually well to heat them, as applying the cement hot is not enough to ensure a fused union of cement and work. Inert substances are almost invariably used in admixture to make the cement harder, stronger, fill voids, and to cheapen it. Clay, sand, asbestos, cement, plaster, whiting, etc., are used in this connection. Sometimes there is a subsequent chemical action, as when acid resins are used with fillers of a more or less basic character, such as metallic oxides or carbonates.

(4.) *Setting by Oxidation.*—This may take place in oil or in powdered metal. In the case of oil there is an effect of hardening, and consequent setting. With metals it causes an expansion due to increase of volume. The commonly used oils acting in this way are Chinese wood oil, linseed oil, rapeseed oil, and fish oils. In the case of Chinese wood oil the oxidation is so energetic that it is generally best to mix it with some other oil.

* A paper read before the Franklin Institute.—From the *Journal* of the Institute

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Linseed oil is almost always previously "boiled" before use, and rapeseed oil is "blown."

With regard to the metal powders, iron is the chief one used, although precipitated copper has been employed, and other metals might be for special purposes. The iron used is invariably the powder resulting from the crushing and sorting of cast borings, filings or millings. They should be nearly free from oil, and the cement has the greatest expansive power when in a finely divided condition.

The value of these cements depends on the expansion taking place in a confined space, such as holes or cracks in castings. This expansion may be so powerful as to break or shatter the object upon which it is used. In such cases it can be diluted with clay or cement. When the holes in a casting are well filled with concentrated iron powder, moistened with water containing a very little salt or salammoniac, the particles adhere so firmly and the actual oxidation is so limited in actual amount, that the casting can be finished and not show where it was mended. Furthermore, the cement is not dislodged by any ordinary means.

(5.) *Setting by Vulcanisation.*—This takes place where fresh rubber is used as a cement in conjunction with sulphur or certain compounds of the same, and heated to about 120° C. which renders the rubber insoluble, firm, and causes it to lose its stickiness. Vegetable drying oils may be used, such as rapeseed and linseed oils, with sulphur chloride, dissolved in carbon disulphide, as a vulcanising agent. Hydrochloric acid gas is liberated in this reaction, and so zinc oxide or a similar base is generally used to neutralise the acid. In the vulcanisation of rubber itself, such precaution must be taken when sulphur or sulphur chloride is used.

(To be continued.)

NEW YORK PRICES CURRENT.

Nov. 12, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(The values are at ship's side, usual ports, unless otherwise stated.)

			$ c.
Acids, Acetic (commercial 28%) package extra		per 100 lbs.	2 25
,, Carbolic (crude, 60%)		per gallon	0 43
,, ,, (crystallised, 40°)		per lb.	0 13
,, ,, (liquid, 95-97%)		per gallon	0 32
,, Oxalic		per lb.	0 7¾
,, Picric		,,	0 22
,, Tartaric		,,	0 27½
Arsenic, white powdered, English		,,	0 6¾
,, ,, ,, Continental		,,	0 6¾
Ammonia, Carbonate, lump		,,	0 7⅝
,, Muriate, grey		,,	0 6
,, ,, white electrical		,,	0 6
,, Sal-ammoniac, white seconds		,,	0 9¼
,, Sulphate, grey		per 100 lbs.	3 10
Aniline Salt		per lb.	0 9¼
Bleaching Powder, 35%, English		per 100 lbs.	1 30
,, ,, ,, Continental		,,	1 30
,, ,, ,, American		,,	1 25
Calcium Chloride		,,	0 60
China Clay, English		per ton	11 0
,, ,, American		,,	8 0
Copper Sulphate		per lb.	0 5½
Potassium, Bichromate		,,	0 8⅝
,, Carbonate, 90%		,,	0 4¾
,, Chlorate		,,	0 9
,, Cyanide		,,	0 18
,, Hydrate (caustic potash), 75-80%		,,	0 4¾
,, Permanganate		,,	0 9½
,, Prussiate Yellow		,,	0 16
Sodium, Carbonate, 58%, bags, f.o.r. works		per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works		,,	0 60
,, Bichromate		per lb.	0 7¼
,, Chlorate		,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works		per 100 lbs.	2 05
,, Hyposulphite		,,	1 35
,, Nitrate		,,	2 50
,, Phosphate		,,	1 85
,, Prussiate		per lb.	0 10
Sulphur, Brimstone (best thirds)		per ton	20 0

THE NEW PATENTS ACT.

(Continued from page 474.)

Part II.—Designs.

Registration of Designs.

49.—(1.) The comptroller may, on the application made in the prescribed form and manner of any person claiming to be the proprietor of any new or original design not previously published in the United Kingdom, register the design under this Part of this Act.

(2.) The same design may be registered in more than one class, and, in case of doubt as to the class in which a design ought to be registered, the comptroller may decide the question.

(3.) The comptroller may, if he thinks fit, refuse to register any design presented to him for registration, but any person aggrieved by such refusal may appeal to the Board of Trade, and the Board shall, after hearing the applicant and the comptroller, if so required, make an order determining whether, and subject to what conditions, if any, registration is to be permitted.

(4.) An application which, owing to any default or neglect on the part of the applicant, has not been completed so as to enable registration to be effected within the prescribed time shall be deemed to be abandoned.

(5.) A design when registered shall be registered as of the date of the application for registration.

50.—Where a design has been registered in one or more classes of goods, the application of the proprietor of the design to register it in some one or more other classes shall not be refused, nor shall the registration thereof be invalidated—

(*a*) on the ground of the design not being a new and original design, by reason only that it was so previously registered; or

(*b*) on the ground of the design having been previously published in the United Kingdom, by reason only that it has been applied to goods of any class in which it was so previously registered.

51.—(1.) The comptroller shall grant a certificate of registration to the proprietor of the design when registered.

(2.) The comptroller may, in case of loss of the original certificate, or in any other case in which he deems it expedient, furnish one or more copies of the certificate.

52.—(1.) There shall be kept at the Patent Office a book called the Register of Designs, wherein shall be entered the names and addresses of proprietors of registered designs, notifications of assignments and of transmissions of registered designs, and such other matters as may be prescribed.

(2.) The register of designs existing at the commencement of this Act shall be incorporated with and form part of the register of designs under this Act.

(3.) The register of designs shall be primâ facie evidence of any matters by this Act directed or authorised to be entered therein.

Copyright in registered Designs.

53.—(1.) When a design is registered, the registered proprietor of the design shall, subject to the provisions of this Act, have copyright in the design during five years from the date of registration.

(2.) If within the prescribed time before the expiration of the said five years application for the extension of the period of copyright is made to the comptroller in the prescribed manner, the comptroller shall, on payment of the prescribed fee, extend the period of copyright for a second period of five years from the expiration of the original period of five years.

(3.) If within the prescribed time before the expiration of such second period of five years application for the extension of the period of copyright is made to the comptroller in the prescribed manner, the comptroller may, subject to any rules under this Act, on payment of the prescribed fee, extend the period of copyright for a third period of five years from the expiration of the second period of five years.

54.—(1.) Before delivery or sale of any articles to which a registered design has been applied, the proprietor shall—

(*a*) (if exact representations of specimens were not furnished on the application for registration) furnish to the comptroller the prescribed number of exact representations or specimens of the design; and if he fails to do so, the comptroller may erase his name from the register, and thereupon the copyright in the design shall cease; and

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(*b*) cause each such article to be marked with the prescribed mark, or with the prescribed words or figures, denoting that the design is registered; and if he fails to do so the proprietor shall not be entitled to recover any penalty or damages in respect of any infringement of his copyright in the design unless he shows that he took all proper steps to ensure the marking of the article, or unless he shows that the infringement took place after the person guilty thereof knew or had received notice of the existence of the copyright in the design.

(2.) Where a representation is made to the Board of Trade by or on behalf of any trade or industry that in the interests of the trade or industry it is expedient to dispense with or modify as regards any class or description of articles any of the requirements of this section as to marking, the Board may, if they think fit, by rule under this Act, dispense with or modify such requirements as regards any such class or description of articles to such extent and subject to such conditions as they think fit.

55.—The disclosure of a design by the proprietor to any other person, in such circumstances as would make it contrary to good faith for that other person to use or publish the design, and the disclosure of a design in breach of good faith by any person other than the proprietor of the design, and the acceptance of a first and confidential order for goods bearing a new or original textile design intended for registration, shall not be deemed to be a publication of the design sufficient to invalidate the copyright thereof if registration thereof is obtained subsequently to the disclosure or acceptance.

56.—(1.) During the existence of copyright in a design, or such shorter period not being less than two years from the registration of the design as may be prescribed, the design shall not be open to inspection except by the proprietor or a person authorised in writing by him, or a person authorised by the comptroller or by the court, and furnishing such information as may enable the comptroller to identify the design, and shall not be open to the inspection of any person except in the presence of the comptroller, or of an officer acting under him, and on payment of the prescribed fee; and the person making the inspection shall not be entitled to take any copy of the design, or of any part thereof:

Provided that where registration of a design is refused on the ground of identity with a design already registered, the applicant for registration shall be entitled to inspect the design so registered.

(2.) After the expiration of the copyright in a design, or such shorter period as aforesaid, the design shall be open to inspection, and copies thereof may be taken by any person on payment of the prescribed fee.

(3.) Different periods may be prescribed under this section for different classes of goods.

57.—On the request of any person furnishing such information as may enable the comptroller to identify the design, and on payment of the prescribed fee, the comptroller shall inform such person whether the registration still exists in respect of the design, and if so, in respect of what classes of goods, and shall state the date of registration, and the name and address of the registered proprietor.

58.—(1.) At any time after the registration of a design any person may apply to the comptroller for the cancellation of the registration on the ground that the design is used for manufacture exclusively or mainly outside the United Kingdom, and where such an application is made the provisions of this Act with respect to the revocation of patents worked outside the United Kingdom (including those relating to costs) shall apply with the necessary modifications, except that there shall be no appeal from the decision of the comptroller.

(2.) Such ground as aforesaid shall be available by way of a defence to an action for infringement of the copyright in the design.

Industrial and International Exhibitions.

59.—(1.) The exhibition at an industrial or international exhibition certified as such by the Board of Trade, or the exhibition elsewhere during the period of the holding of the exhibition, without the privity or consent of the proprietor, of a design, or of any article to which a design is applied, or the publication, during the holding of any such exhibition, of a description of a design, shall not prevent the design from being registered, or invalidate the registration thereof; Provided that—

(*a*) The exhibitor, before exhibiting the design or article, or publishing a description of the design, gives the comptroller the prescribed notice of his intention to do so; and

(*b*) The application for registration is made before or within six months from the date of the opening of the exhibition.

(2.) His Majesty may, by Order in Council, apply this section to any exhibition mentioned in the Order in like manner as if it were an industrial or international exhibition certified as such by the Board of Trade, and any such Order may provide that the exhibitor shall be relieved from the condition of giving notice to the comptroller of his intention to exhibit, and shall be so relieved either absolutely or upon such terms and conditions as may be stated in the Order.

(To be continued.)

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Nov. 27.
120,000	1	1	Bell's Asbestos ... ord	1 13/16 1 15/16
	Stock	100	Borax Consol 4½% deb. stock red	106½
80,000	10	10	Do. 5½% cum. pref.	10¼
1,356,477	1	1	Bradford Dyers ... ord.	23/-
1,50 ,000	1	1	Do. ... 5% c.p	20/3
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	39/6
10,000	10	10	Do. ... 6% c p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	4 15/16 5 1/16
82,678	10	10	Do. 7% pref	16⅛ 16⅜
96,000	5	5	Bryant and May ... c.p.	12⅛
40.000	10	10	Buxton Lime Firms ord.	6 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	24/9
450,000	1	1	Castner Kellner ... ,,	26/3 26/9
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¾ 4
6,000	6	3	Cleveland Salt ... 6% m p.	3 3½
20,000	10	10	Crosfield J., and Sons c.p	9¼ 10
85,000	1	1	Fletcher, Russell, & Co. ord	28/- 28/6
5,000	10	10	Do. 6% c.p	11 15/16 12 1/16
£15,223,235	Stock	100	Gas Light and Coke Co. ord	92 94
50,000	10	10	India Rubber Co. ... ,,	14¼
	5	5	Lagunas Nitrate ... ,,	6 3/9
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11¼ 11¾
200,000	10	10	Lever Bros. ... 5% c.p.	10¼ 10½
400,000	10	10	Manchester Ship Canal ord.	20/- 20/6
400,000	10	10	Do. per 5% pref.	30/-
120,000	1	1	Mandelberg ... ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	60
134,694	10	10	Nitrate Railways ... ,,	8½ 9
228,540	10	10	Nobel Dynamite Trust ,,	15 7/16
	10	10	Do. share warrants	15½
200,000	1	17/-	Oakbank Oil, Ltd. ... ord	37/-
	1		Pears, A. and F. ... ,,	30/9
70,000	10	10	Pease and Partners ... ,,	11½ 12
37.500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	12¼
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	66
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
190,962	1	14/3	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	16/6 17/-
100,000	6	6	Do. ... 7% n.c.p.	4⅛ 4⅜
£143,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	15/-
	1	1	Schibaieff Petroleum ,,	3/32 5/32
£6,250,000	Stock	100	South Metropolitan Gas ,,	119 121
45,000	10	10	Steiner, F. and Co. 5% c p.	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼
289,343	10	10	United Alkali ... ord.	75/-
282 524	10	10	Do. ... 7% pref.	10 29/32
80,000	1	1	United Indigo & Chemical ord	2/- 2/6
66,665	5	5	Willans and Robinson ,,	1 5/16 1 7/16
210,000	1	1	Woolcombers ... 7% c.p.	19/- 19/6
113,202	4	4	Young's Paraffin ... ord.	69/9

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Ammonia Stills. P. F. Holmes and H. O. Howell. 24,913 November 11.
Obtaining intimate Mixture of Substances. E. Dor-Delattre 24,958 November 11.
Barium Sulphate. F. W. Read. 24,967. November 11.
Concentration of Minerals. F. G. Buendia. 24,968. November 11.
Superheating Steam. A. Bolton. 25,015. November 12.
Steam Superheaters. J. N. Stern and H. T. Tiliquist 25,034. November 12.
Black Sulphurised Dyestuff. Soc. Anon. des Matières Colorantes et Produits Chimiques de Saint-Denis. 25,080. November 12.
Zinc Ore Smelting. E. H. Hopkins. 25,099. November 12.
Ozone. O. Hellstern and G. T. Vincent. 25,114. November 12.
Electro-deposition of Metals. S. O. Cowper-Coles. 25,126. November 12.
Paraffin Wax. N. M. Henderson. 25,152. November 13.
Spent Ammonia Liquor. W. M. Mackey. 25,166. November 13.
Ozonising Liquids. F. Barbary. 25,201. November 13.
Purification of Gas or Vapours. G. F. Jaubert 25,215 November 13.
Substitutes for Resin and Gum. L. Helm. 25,216. November 13.
Purifying Waste Water. W. Rumin. 25,222. November 13.
Treatment of Residue from Sulphate of Alumina. W. Pochin and J. H. Richardson. 25,227. November 14
Treatment of Bauxite. W. Pochin and J. H. Richardson. 25,228. Nov. 14.
Recovery of Zinc from Effluents of Wet Copper Process. W. J. Wigg and S. Peers 25,229. November 14.
Alkaline Salts from Blast Furnace Dust. Stanton Iron Works Co. Ltd., and G. J. Ward 25,251. November 14
Coke Ovens. A. O. Jones. 25,252. November 14.
Soap Powder. O. Lindemann. 25,276. November 14.
Gaseous Regenerator or Superheater. J. Sculthorpe 25,230. Nov. 14.
Heating Liquids. G. C. Downing. 25,282. November 14
Ammoniacal Salts. René Fousset. 25,318. November 14.
Dyestuffs. H. Kugler. 25,337. November 15.
Carbonic Acid Gas. C. W. Clayton and R. J. White. 25,375. November 15.
Centrifugal Separators. W. Holzer. 25,399 November 15.
Aluminium. A. Sinding-Larsen. 25,408. November 16.
Camphene. Schmidtz and Co. G. m. b. H. 25,453 November 16.
Camphoradin Acid Derivatives containing Iodine and Mercury. A. Klein. 25,458. November 16.
Tin Extraction from Ore. H. Mühlinghaus. 25,460. November 16.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Salt Manufacture. McTear. 22,327.
Salt Manufacture. McTear. 22,327A.
Nitric Acid Condenser. Trobridge. 25,435.
Steam Superheaters. Sisterson. 26,175.
Electrolytic Production of Metallic Sheets, Tubes, Wires, Strip, etc. Cowper-Coles. 26,201.
Ammonia. Woltereck. 28,963 and 28,964.

1907.

Steam Superheaters. Hartley. 1,406.
Purifying, Absorbing, and Condensing Gases. Brandenburg. 7,116.
Filter-presses. Rossee and Unionwerke Akt.-Ges. Fabriken für Brauerei-Einrichtungen vorm Heinrich Stockhein, vorm. Otto Fromme, vorm Heinrich Gehrke and Co. 9,785.
Ethers of Borneol and Isoborneol. Verley, Urbain and Feige. 14,549.
Separation of Nitro-glycerine from Acids. Haddan. 18,537.
Explosive Oil. Haddan. 21,116.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or connected with the production of Fertilisers, Filtering Materials, and the like. J. Brightmore, Mayfield House, Tideswell. British Patent, 15,922. July 13, 1906.

This invention relates to a process for the production of fertilisers from compounds of lime, lime-kiln refuse, or the like, and consisting in reducing the materials to a suitable state of division, moistening with water, subjecting the moistened mass to the action of an electric current and heat, then to the action of superheated steam, and finally exposing the mass to gases or fluids containing nitrogen. The block or mass may also be used in filter beds or otherwise employed for filtering sewage or the like, in which case it may be utilised without previous impregnation with gas or fluids containing nitrogen.

Improvements in and relating to the Extraction of Tin from Ore or Oxide, and in Apparatus for use therewith R. W. E. MacIvor Glengall-road, London, E., and M. Fradd, Finsbury House, Blomfield-street, London. British Patent, 22,162. October 8, 1906.

This invention has special reference to the use of producer or water gas in connection with the extraction and reduction of tin from ore or oxide. In the inventors' previous specification, No. 10,943, of 1905, they described a process in which finely divided tin ore heated to a suitable temperature in a closed furnace is subjected to the continuous action of producer or water gas, while particles of the ore are agitated during the process of reduction, and thereby exposed to the full action of the gas or mixture of gases. With this previous process it was not contemplated to draw and recharge the reduction chamber while hot, which is one of the objects of this invention.

When it is desired to draw and recharge the reduction chamber while hot, the gaseous contents must be first expelled, which is effected preferably by the introduction of superheated steam, or by introducing a stream or current of any inert gas which will not oxidise or otherwise prejudicially affect the molten tin, if not drawn off so that the reduction chamber can be drawn and recharged while hot, thereby saving both time in working and fuel, and enabling the work to be continuous. The invention also comprises an arrangement of furnace specially adapted for carrying out the method of reducing tin from ore or oxide by the use of producer or water gas.

In carrying the invention into practice, finely divided ore or oxide is brought to a red heat in a closed chamber provided with any suitable means for agitating the contents during the process of reduction. A suitable form of chamber for this purpose is preferably of a cylindrical type, arranged to be slowly rotated, and may be heated either externally or internally, or the two methods of heating may be used together. The interior of the chamber is fitted with longitudinal projecting ledges or other known means, to carry portions of the charge half round, when it will fall from the top to the bottom of the reducing chamber, and in this way the particles of the charge will be exposed to the continuous stream of gas passing through the reducing chamber. It is preferred that there shall be a continuous flow of gas through the reducing chamber. The gas supply is derived from any usual form of water-gas producer.

Method of Manufacture of Sulphide of Zinc. J. C. A. Meyer, 208, Avenue Félix Faure, Lyons. British Patent, 5,032. March 1, 1907.

The inventor claims:—The method of manufacturing pure zinc sulphide, by precipitating the same by means of sulphuretted hydrogen from a solution of zinc acetate obtained by treating with sulphuretted hydrogen an acetic solution of mineral zinc which contains lead in the proportion of not less than 2% of the amount of zinc present, or to which sulphuric acid has been added, so that the iron is eliminated from the liquor by the action of the lead, together with salts of copper, cadmium, tin, lead, and other metals forming dark-coloured sulphides.

Improvements in Electrodes for Resistance Furnaces. H. Röchling, Schoenawa, and J. Rodenhauser, all of Völklingen-on-Saar, Germany. British Patent, 11,917. May 22, 1907.

The claims of this specification are:—(1.) Improvements in electrodes for resistance furnaces in which the heat serving for liquefying the material to be smelted is produced by the conducting resistance of the material to be smelted itself, which consist in the electrode, which is let into the furnace wall consistng of two parts, one a slab, standing in direct contact with the metal bath, and made of alkaline earths and the so-called rare earths or their chemical compounds and a carbonaceous adhesive, of preferably large section and slight thickness, and a plate, embedded between the material of this slab and that of the furnace wall, and formed of metal which is only fusible with difficulty, of somewhat similar superficial area to the slab, the face of which, which faces the slab, being adapted to be provided with suitably profiled channels for enlarging the current transfer surface and facilitating the firm attachment of the slab. (2.) In electrodes for resistance furnaces, the arrangement of the terminal in the furnace wall, which consists in the terminal embedded when the furnace is erected between the material of the furnace wall and the electrode slab being separated from the material of the furnace wall which material becomes a conductor at a high temperature by the interpolation of a fire resistant electrically insulating layer.

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Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, November 12th, 1907.

(Rate of Exchange, $4.87 = £1.)

Nitrate of soda remains rather slow and weak at $2.35. to $2.40., as to delivery. Sulphate of ammonia is quoted at $3.07½., without much inquiry. Grey muriate for galvanising is in slow demand, owing to the small business being done by the iron trade, but prices remain steady at previous quotations. White muriate, for electrical purposes, is weak at 5½c. to 6c. per lb., as to make. Lump sal ammoniac is unchanged at 9½c. per lb. Lump carbonate of ammonia inclines downwards for next year's contracts, owing to keener competition. Bleaching powders are slow, at $1.15. to $1.25. per 100 lbs., the higher range being for English. Alkali, light 58%, in bags, is 90c. to 92c. per 100lb., f.o.r. makers' works, while caustic soda, 74%, is $2.10. per 100 lbs. Sulphate of copper remains unchanged at 5½c. per lb. White powdered arsenic is very dull at 6⅞c. to 7c. per lb., as to quantity and delivery. Red Saxony arsenic is steady at 7½c. per lb. Calcined carbonate of potash, 80-85%, is rather firm at 3⅞c., and hydrated is 4⅛c. to 4¼c. per lb. Caustic potash, 75%, is 4⅛c. Chlorates of potash and soda are more firmly held, at the Syndicate quotations previously reported, at which contracts for next year have been booked. Bichromate of potash is 8⅜c., and soda 7⅛c. per lb., nominally, although the re-sellers are shading these figures. Prussiate of soda is 9½c. per lb. for spot, and is firmer for next year, at the same price. Prussiate of potash is steady, at 15½c. per lb. for prompt. Phosphate of soda is unchanged at 1¾c. to 2c. per lb. Antimony salts, 47%, are 13c. to 14c. per lb., while antimony oxide is quoted from 10c. to 11c. per lb. Tartar emetic is unchanged, at 23c. per lb. Oxalic acid is in more plentiful supply, and sells at 7½c. to 7⅝c. per lb.

THE RUSSIAN CHEMICAL MARKETS.

The St. Petersburg chemical report of November 14 states that the wave of depression which began in the Autumn on the Western European markets has gradually made its way over Russia. During the fortnight preceding the date of the report this has been particularly observable in sulphate of copper, which, in sympathy with the tremendous fall in the metal, has cheapened by almost a rouble (2s.) per pood. Besides this, zinc white, sal ammoniac, alum, Chili saltpetre, etc., have lost value. Last quotations were :—Nitric acid, 36° B., 3 roubles to 3r. 20 copecks; borax crystals, 4r. 40-80c.; white lead, 5r. 5-15c.; chloride of lime, 1r. 45-60c.; potash alum, 1r. 10-25c. (as compared with 1r. 15-30c.); sulphate of copper, 5r. 50c. to 6r. (as compared with 6r. 50c.); sal ammoniac, 7r. 25-50c. (as compared with 7r. 50-80c.); Chili saltpetre, 1r. 90c. to 2r.; caustic soda, 2r. 65c.; superphosphates, 16-17%, 65c. to 70c.; sulphur (lump), 1r. to 1r. 5c., and flowers, 1r. 55c. to 1r. 60c.; sulphuric acid, 66° B., 85-95c.; tannin, 22r.-23r.; bichromate of potash, 8r. 40-60c.; bichromate of soda, 7r. 25-35c.; ether (0.725), 8r. 50c. to 9r. 50c.; collodion (4%) 13r. 50c. to 14r. 50c.—all per pood of 36 lbs.

The Riga report of November 17 states that the tone of the market was brisk; prices were firm, and stocks limited. There was a particularly good demand for naphthaline and disinfectants. The latest prices for the principal items were :—Sulphuric acid, technical, 66° B., 1r. to 1r. 5c.; nitric acid, 40° B., technical, 3r. 80c. to 4r. 10c.; muriatic acid, 20° B., 90c.; Glauber's salts, 75-80c.; sulphate of magnesia, 95c.; barium chloride, 2r. 90c.; potash, alum (in crystals) 1r. 10-20c.; chloride of zinc, 2r. 5c.; naphthaline, 2r. 75c.; sulphate of soda, 1r. 75c.; soda (small crystals, best quality) 80c. to 1r.; bicarbonate of soda, 2r. 20-30c.—all per pood. The Odessa chemical market (November 14) was reported firm, but the business done was limited. Prices quoted are :—White lead, 6r. to 6r. 10c.; glycerine, 11r. 75c.; wood spirit, 96°, 7r. 50c. to 75c.; chloride of lime, 1r. 90c. to 2r.; yellow prussiate of potash 14r. 25-75c.; salammoniac, 8r. to 8r. 5c.; Caucasian potash, 2r. 50c.; Chili saltpetre, 2r. 5-10c.; caustic soda, 2r. 75c.; calcined soda, 1r. 40-45c.; hydrochloric acid, technical, 1r. 5c.; citric acid, 41r.—41r. 50c.; Odessa tartaric acid, 23r. 25-50c.; Russian turpentine, 3r. 20c.; sulphuric acid, 66° B., 1r. 25c.; acetic acid, 80°, 8r. 25-75c.; bicarbonate of potash, 9r.; ether, 8r. 25-50c.—all per pood.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols: 90's steady at 8¾d. to 9d.; 50-90's quiet, at 8½d. to 8¾d., casks included. Crude tar, 14s. 6d. to 18s. 6d. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 23s. 6d. to 24s., f.o.b.; Gas Company, 26s.; East Coast, 22s. 6d. to 23s.; West Coast, 22s. to 22s. 6d., f.a.s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 9½d. to 10d.; pure, 1s. d., casks included. Carbolic acid, crude, 50%, 1s. 5d. to 1s. 5½d.; 60%, 1s. 7¾d. to 1s. 8d.; 75%, 1s. 11¾d., casks included. Crystals, 39-40, 5d.; 34-35, 5d. to 5⅛d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45% A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia quiet. Nearest values are :—Beckton, this year, £12. 5s.; next year, £12. 7s. 6d.; Beckton terms, £11. 17s. 6d. to £12.; London, £11. 17s. 6d.; Hull, £12.; Liverpool, £12.; Manchester, £11. 17s. 6d.; Leith, this year, £12. 5s.; next year, £12. 7s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s., and refined, 11s. 1½d. Official quotations :—Cargoes, off coast or due, 11s.; ditto for prompt shipment, 11s. 3d.

THE LONDON METAL MARKETS.

WEDNESDAY.

Copper: Standard brands, £62. 17s. 6d. to £63. 2s. 6d. cash, and for three months £63. 2s. 6d. to £63. 7s. 6d. Tin: G.M. quality, £137. to £137. 10s. cash, and £138. 10s. to £139. three months; English, £140.; Banca, 84¼fl. Lead: Soft foreign, prompt, £16. 15s.; December, £16. 10s.; January, £16. 10s.; February, £16. 10s. Spelter: Ordinary brands, December, £21. 5s.; January, £21.; February, £20. 15s., ex ship; hard, £18., f.o.b. Antimony, £32. to £35.; crude, £20. to £23., c.i.f.; ore, £9. to £9. 10s. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 1od. per lb. Aluminium, £100. Wolfram, 35s. Pig-iron closing prices :—Cleveland, 50s. cash; 49s. 6d. one month; 48s. 9d. three months; settlement price, 50s. 3d.

FERTILISER MATERIALS.

THURSDAY.

We have again to report a quiet market, both for ammoniacal and phosphatic material, though in some instances the tone is distinctly firmer, especially in the forward position.

There is no new business to record in mineral phosphates, the nearest values being 9d. per unit for Floridian and 6¾d. per unit for Tunisian, c.i.f. good U.K. port.

The market for East Indian bone meal has advanced, and for shipment business has been done at £5. per ton, nett cash, c.i.f. Liverpool; spot quotations are £5. 5s. to £5. 10s. per ton, ex store, according to quality.

The position of nitrate of soda has improved, and for forward delivery an advance of 3d. per cwt. is required. Spot values are still 11s. per cwt. for ordinary 95% quality, and 11s. 1½d. per cwt. for refined, ex store, Liverpool.

MISCELLANEOUS CHEMICAL MARKET.

THURSDAY.

There are no changes of any material kind during the week, and business generally is reported quiet. Values, however, are well maintained and the tendency upon the whole is rather in the direction of higher prices. In the alkali and heavy chemical trades costs are higher by reason of dearer fuel and raw materials. Ammonia alkali, 58%, stands at £4. 10s., bags, f.o.r. Caustic soda, 70%, £10. 2s. 6d. per ton, f.o.r. Bleaching powder, £4. 5s. to £4. 7s. 6d., f.o.b. Soda crystals, 55s. per ton, f.o.r. in bags. Sulphate of copper is dearer at £23. per ton, f.o.b. In vitriol and muriatic acid a fair amount of business has been concluded for next year at advanced prices. Saltcake is selling freely at 42s. 6d. per ton in bulk, both for prompt and forward delivery. Acetates of lime are rather lower in price. Acetic acids unchanged. White powdered arsenic is steady, at £27. 10s. to £28. Prussiates, 3⅜d. to 5⅞d. per lb. are current quotations for prompt and future delivery. Chlorates are 3½d. and usual convention terms. Demand still active for green copperas. Muriate of ammonia firm, at £24. 10s. Other ammonia salts keep steady. Alum and sulphate of alumina rather dearer.

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LIVERPOOL DRYSALTERIES.

WEDNESDAY.

There is little demand for Montreal potashes, with only a small quantity on the market, which is offered at 36s. 9d. to 37s. per cwt. Pearl nominal, owing to absence of supplies. Logwood firm, but with few sales reported. Cutch: Prices maintained, but little doing. Gum steady, with quiet demand for Arabic. Castor oil quiet, but the market is firm, with quotations at 3 7/16d. for first pressure, 3½d. for second pressure French, 3 5/16d. to 3⅜d. for good seconds Calcutta, and 3¾d. per lb. for first pressure French; forward parcels of Calcutta are quoted at 3⅜d. for November-December, and 3¾d. for January-April shipments. Gambier still quiet; ruling prices are: 23s. to 23s. 6d. for block, on spot; 20s. 3d. for November; 19s. 6d. for November-December; and 19s. per cwt. for December-January shipment; cubes, 28s. 9d. to 29s. ex quay, and store parcels, 30s.; November shipments, 28s., and November-December shipments, 27s. 10½d. per cwt. Shellac firm but inactive, with quotations given at 107s. 6d. to 110s. for fair TN orange in block parcel, fair free selling at 120s. to 125s., and December-February shipment, 113s., c.i.f.; December delivery, 112s.; January, 113s., and March 115s. Glucose quiet: American liquid, 43%, on spot, 11s. 9d., January-March delivery, 11s. 3d., and January-March shipment 9s., c.i.f., "Union Jack." Crystal, January-March delivery, 11s. 3d. ex works, London; chips, 80%, for shipment, quoted at 9s., and 70% 9s., c.i.f. American powdered starch, 11s. on spot, and for shipment, 10s. 6d., c.i.f. Cream of tartar, 98%, foreign powder, 88s. to 89s.; 95%, 86s. to 87s. Tartaric acid: English, on spot, 11½d.; foreign, 11d. Citric acid: English, 1s. 8½d.; foreign, 1s. 8½d.

LIVERPOOL OIL MARKET.

WEDNESDAY.

OILS.—Palm oil dull, sales including Accra on spot at £26. 7s. 6d.; Lagos, for early arrival, £28. 5s.; hard oils, on spot, £26. Saltpond, for early arrival, £25. 10s., and December-January delivery, £25. 2s. 6d. per ton, all in transit. Linseed oil steady at 24s. 9d. to 25s. 6d. per cwt., for Liverpool makes in export casks. Cottonseed oil quiet, with values given at 24s. 9d. to 25s. 9d. per cwt., for Liverpool makes in export barrels. Turpentine quietly steady, with quotations for spot parcels at 36s. 3d. per cwt. Petroleum in fair demand, and prices firm at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady and in fair inquiry at 1s. 0½d. to 1s. 3d. per gallon for spot parcels of American.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OILS.—Although there have been slight changes during the week, values of seed oils close practically in the same positions. Turpentine has lost value by 30s. per ton. Amongst the principal imports here during the week are:—Linseed, 22,207 qrs.; ravison seed, 1,020 qrs.; rapeseed, 635 qrs.; cottonseed, 6,582 tons; margarine, 2,817 cwts.; lard, 5,033 cwts.; sugar, 28,278 cwts.; hemp, 2,290 cwts.; pig iron, 2,682 tons; oilcake, 179 tons; colours, 1,991 pkgs.; wool, 106,266 lbs.; hides, 43 cwts. Exports:—Oil, 10,016 cwts.; colours, 2,019 pkgs.; chemicals, 2,264 pkgs. Cottonseed: Fair business passing, but at lower rates; spot, £6. 15s.; on passage, £6. 15s.; November, £6. 15s. for 2,000 tons: December sold at £6. 16s. 3d.; December-January, 100 tons a month sold at £6. 17s. 6d.; Bombay, November-December quoted £5. 16s. 3d.; total imports since 1st January, 312,959 tons, against 251,259 tons last year. Refined cotton oil, spot, 21s. 6d.; sellers, December-January 21s. 7½d.; crude ditto, spot and to April, 20s. 6d.; casks £1., and barrels £1. 7s. 6d. per ton extra. Amongst the exports are: 119 tons to Marseilles, making a total of 602 tons, against 778 tons same week last year. Linseed: The total imports for the year have been 755,959 qrs., against 533,229 qrs. same time last year; La Plata, spot, is quoted 43s.; November-December 42s. 3d.; December-January, 40s. 1½d.; buyers, January-April 39s. 9d.; February-March, 39s. 6d. Linseed oil, naked, spot, 22s. 3d.; December, 21s. 9d.; January-April, 20s. 10½d.; boiled and refined, £1. to £1. 10s. per ton extra. Amongst the exports during the week are:—109 tons to Melbourne, 151 tons Sydney, making a total of 314 tons, against 19 tons same week last year. Rapeseed firm, but oil cheaper by 15s. per ton. Olive oil, Levant, from £41. to £43. per tun. Turpentine quiet; spot, 36s. 3d.; December, 36s. 6d.; January-April, 37s. 3d.; Russian ditto, 19s. 6d. Castor oil easy; November-December, 30s. 3d. for firsts, to 29s. 5d. July-December; seconds, £1. per ton lower. Rosin from 10s. 3d.

CAKES.—Linseed cakes, 95% pure, £7. 15s. to £8. Russian, £7. 15s.; Canadian, £8. Oilcakes, £6. 15s. Cotton cakes firm, £5. 2s. 6d.; Bombay, £4. 7s. 6d. Rape meal, £5. 5s. Manure meal, £4. 5s.

TYNE CHEMICAL REPORT.

WEDNESDAY.

Market here is quiet, but steady. Soda crystals, locally, are quoted at £3. to £3. 2s. 6d. per ton, gross weights, for prompt. Caustic soda, 70%, £10. 5s., and 76-77%, £11. per ton. Bleaching powder steady at £5. to £5. 5s. per ton. Sulphur scarce and firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, WEDNESDAY.

Sulphate of ammonia, prompt, f.o.b. Leith and Glasgow, continues on a quiet market at about the figure of a week ago. With regard to forward transactions there is still no business reported, neither side being at all anxious in the meantime to close. The price nominally given by makers ranges from £12. 5s. to £12 7s. 6d. The calico printers and cotton dyers are still rather badly situated, but the temporary arrangement with regard to the Lancashire cotton dispute, if confirmed, will probably ease matters a little by making supplies of cloth less uncertain for a time. Stocks of creosote having become short, prices have become very firm, and on Glasgow market values have been substantially advanced. The heavy chemicals, at prices as before, are steady, and in fair call both for spot and deferred.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¾d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¾d. to 3d., naked, f.a.s. Glasgow; nitrate of soda 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 5s., prompt, f.o.b. Leith; sulphate of copper, £22. to £23., less 5% Liverpool, prompt.

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IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bkts.	Baskets.	Djns.	Demijohns.	Pnr Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending November 14.

Acetic Acid—
Holland, 48 crbys. R. W. Greeff & Co.
,, 35 cks. W. H. Muller
,, 25 blns. Muller
,, 48 crbys. Little & Co.
,, 13 cks. Johnston
Norway, 34 B. Biggs & Co.
,, 57 pks. Weber, Smith & Hoare

Alum—
Holland, 5 cks. T. H. Lee

Alumina Sulphate—
Holland, £768 Ohlenschlager
,, 120 J. W. & P. A. Smith

Ammonium Muriate—
Holland, £28 H. Lorenz

Amyl Acetate—
Germany, £58 R.W. Greeff & Co.
Holland, 100 W.H.Muller & Co.

Antimony Ore—
N.S.W., 11 t. L. & I. D. Jt. Co.
,, 22 J. W. Cook & Co.

Arsenic—
France, 112 cks. J. Owen

Barium Peroxide—
Holland, £70 W.H.Muller & Co.

Barytes—
Holland, 100 bls. J Owen
,, 100 bgs. W. Harrison & Co.
,, 58 cks. O'Hara & Hoare
Belgium, 300 bgs. W. Harrison & Co.
Holland, 311 pks. Felton & Crepin
,, 70 cks. Taylor Bros.
France, 4 W.Harrison & Co.
Belgium, 500 bgs. Felton & Crepin

Basic Slag—
Belgium, 50 t. J.Burstall & Co.

Bleaching Powder—
France, 25 t. N. & R. Collyer

Bones—
Channel Is., 1 t. Cheesewright & Ford

Calcium Carbide—
Norway, 2 t. H. Dalton
,, 8 12 c. J. Sperm
,, 104 16 P. Wieck
Sweden, 1 M. Dk. Co.

Caoutchouc—
Straits, 15 c. Lewis & Peat
Ceylon, 1 G. Williamson & Co.
,, 1 t. 11 L. & I. D. Jt. Co.
,, 12 Hoare, Wilson & Co.
U.S.A., £7 Humphery & Co.
Burmah, 15 S. Figgis & Co.
Straits, 3 t. 12 L. & I. D. Jt. Co.
,, 9 J. D. Hewett & Co.
Ceylon, 6 L. & I. D. Jt. Co.
Straits, 7 Adamson, Gilfillian & Co.
Aden, 3 Dreyfus & Co.
,, 11 L. & I. D. Jt. Co.
,, 13 Clark & Smith

Caoutchouc—
Aden, 6 c. Wallace Bros.
Holland, 12 t. 6 L. & I. D. Jt. Co.
Germany, 2 10 Prop. Hay's Wf.
Straits, 4 7 L. & I. D. Jt. Co.
,, 3 16
Aden, 6 Hale & Son
Holland, 1 3 J. Peet & Co.
France, 1 2 Butler's Wf.

Castor Oil—
France, 25 cks. Kiver & Co.
,, 10 brls. Weber, Smith & Hoare
Belgium, 85 Fuerst Bros.

Caustic Potash—
Germany, 20 dms. Bailey, Clanaham & Co.
,, 20 Steel & Co.
Belgium, 5 Luke & Bailey

Chemicals (*otherwise undescribed*)
U.S.A., £20 Lunham&Moore
Germany, 194 T. H. Lee
,, 11 Prop. Hay's Wf.
,, 10 L. & I. D. Jt. Co.
Belgium, 7 B. & F. Wf. Co.
,, 10 Butler & Crispe
U.S.A., 19 Davies, Turner & Co.
Belgium, 8 Leach & Co.
,, 7 D. C. Thomas & Son
Germany, 785 R. W. Greeff & Co.
,, 38 Argo S.S. Co.
,, 247 A. & M. Zimmermann
Holland, 8 Scrutton, Son & Co.
,, 204 W.H.Muller & Co.
Germany, 129 T. H. Lee
,, 8 Prop. Hay's Wf.
,, 235 A. & M. Zimmermann
France, 15 Symons & Co.
Germany, 46 T. H. Lee
,, 521 A. & M. Zimmermann
Holland, 22 T. H. Lee
Belgium, 8 8 c. J. Cockerill Line
Holland, 58 W.H.Muller & Co.

Coal Products—
Alizarine
Holland, 72 cks. London & Rhine S. Office
Aniline
Belgium, 18 pks.5 cs. J. Cockerill Line
Germany, 8 cks.4 cs. L. & I. D. Jt. Co.
Holland, 1 kg.Van Dam & Co.
Belgium, 5 pks. Friend & Co.
Pitch
N. Russia, 97 cks. Berlandina Bros & Co.
,, 400 brls. Fellows, Morton & Co.
Tar
N. Russia, 20 cks. Price & Co.
,, 190 100 brls. P. J. Danis-
,, 30 hhds. chewsky
,, 30 hf-cks. Dussek
,, 100 brls. Bros. & Co.
,, 175 49 pps. Linck Moeller & Co.
,, 167 London Oil Storage Co.

Colours (Earth)—
Holland, 68 pks. W. H. Muller & Co.

Copper Cyanide—
Germany, £24 L. & I. D. Jt. Co.

Copper Ore—
Germany, 59 t. Brandeis, Goldschmidt
Hong Kong, 167 H. Grey, Jnr.
Natal, 5 J. T. Rennie, Son & Co.
Melbourne, 1 London Welsh S.S. Co.

Copper Sulphate—
Germany, £35 Charles & Fox

Cottonseed Oil—
Italy, 6 cs. C. Rossi

Cream of Tartar—
Holland, 10 cks. W. C. Bacon & Co.
France, 8 Yeatman & Co.
,, 4 B. & F. Wf. Co.
,, 4 Fuerst Bros.
,, 20 W. C. Bacon & Co.
Holland, 72 A. & M. Zimmermann

Dextrine—
Holland, 3 t. J. Barber & Co.
Germany, 9 c. L. & I. D. Jt. Co.
,, 10 Millwall & Co.

Dyestuffs—
Cutch
Burmah, 750 bxs. Union L. Co.
,, 50 Baxter, Hoare & Co.
Gambier
Straits, 241 brls. Dalton & Young
,, 513 bls. L. & I. D.
15 cs. Jt. Co.
,, 15 Leach & Co.
Myrabolans
E. Indies, 1,000 pks. S. Barrow & Bros.
Myrabolan Extract
E. Indies, 29 cs. Montgomerie & Workman
Quebracho Extract
Germany, 50 cks. J. Graves
Sumac
France, 7 brls. L. & I. D. Jt. Co.
Tanners' Bark
Natal, 30 t. J. T. Rennie, Son & Co.
,, 50 Sollas & Sons
Tannin Extract
France, 70 cks. A. J. Humphery
Canada, 55 brls. Boutcher, Mortimore & Co.
U.S.A., 10 Fisher, King & Co.

Farina—
Holland, 19 t. 14 c. M. Duche & Sons
,, 11 10 Van Dam & Co.
,, 40 J. Barber & Co.

Formaldehyde—
Germany, 27 cks. M. Dk. Co.

Formic Acid—
Germany, 10 cks. G. S. N. Co.

Glue—
U.S.A., £37 L. & I. D. Jt. Co.
Germany, 13 ,,
,, 80 Prop. Hay's Wf.
Holland, 47 Muller & Co.
,, 203 Hernu, Peron & Co.
,, 202 Van Dam & Co.
Belgium, 450 Duche & Sons
,, 105 Thomas & Sons
Norway, 50 Davies & Sons
France, 135 Bennett S.S. Co.
,, 5 Argo S.S. Co.
Belgium, 95 J. Cockerill Line
Germany, 11 Perkins & Homer
N. Russia, 945 J. Greig
Holland, 9 T. H. Lee

Glue—
Germany, £70 Beresford & Co.
,, 15 Argo S.S. Co.

Glue Stock—
Belgium, 4 t. 7 c. Duche & Sons
Ceylon, 2 2 L. & I. D. Jt. Co.

Guano—
Belgium, 283 t. Anglo-Cont. Guano Wks.

Iron Bromide—
Germany, £184 A. & M. Zimmermann

Iron Ore—
Holland, 202 t. Hawkins & Co.
Belgium, 120 F. M. Co.

Kainit—
Germany, 100 t. F. W. Berk & Co.

Lactic Acid—
Germany, 35 cks. Props. Tennant's Wf.

Lead Hyposulphate—
Germany, £28 Argo S.S. Co.

Linolic Acid—
Holland, 2 cks. A. & M. Zimmermann
,, 2 T. H. Lee

Linseed Oil—
Holland, 113 brls H. Dixson

Lithopone—
Holland, 20 pks. Taylor Bros
Germany, 13 Windschuegl & Co.
,, 160 Elkan & Co.
Holland, 100 J. D. Budd
,, 48 Muller & Co.
,, 34 cks. F. T. H. Nye
,, 76 J. F. Laudervale
Belgium, 8 J. Lyon & Co.
Germany, 51 cs. ,,

Magnesite—
E. Indies, £9 Rock Mfg. Co.
Holland, 32 A. Man
,, 25 Dowgate Dk.

Manganese Ore—
Germany, 3 t. Aden & Co.

Manure—
N. Russia, 78 t. Hollingshurst & Co.
France, 240 Lawes' Chem. Co.
E. Indies, 50 Hollingshurst & Co.

Ochre—
France, 39 cks. Harrison
168 pks. & Co.

Olive Oil—
France, 10 tuns F. Boehm
Holland, 398 brls. Dixson & Co.
,, 169 Goodlake & Nutter
France, 30 gals. L. & I. D. Jt. Co.
,, 1 tun. Carter, Paterson & Co.
,, 40 gls. Major & Field
,, 24 Stockwell & Co.

Painters' Colours—
U.S.A., 4 brls. L & I D.
,, 101 cs. Jt Co.
,, 8 Beck & Pollitzer
,, 3 Field & Co.
,, 153 pks. Morris, Ashby & Co.
,, 244 Benney, Smith & Co.
,, 15 Sheldon & Co.
Belgium, 52 J Cockerill Line
,, 3 cs. ,,
,, 19 pks. Berger
8 cks. & Son
,, 20 J. Harrison

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Painters' Colours—
Germany, 3 cks. L. & I. D. Jt. Co.
" 17 pks. "
" 10 Argo S.S. Co.
" 16 cs. "
" 1 pk. Silicate Paint Co.
" 33 Smythe & Co.
" 583 Craven & Co.
" 27 B. Aut. Paint Co.
" 5 cks. T. H. Lee
" 10 G.-W. Rly. Co.
France, 6 Johnson,
" 3 pks. Sons & Co.
" 69 dms. Livett, Frank & Son
Holland, 1 ck. Atkins & Nisbet
" 6 Muller & Co.
" 17 bskts. "
" 20 pks. "
" 21 T. H. Lee
" 43 dms. Van Dam & Co.
" 8 pks. Harrison&Co
" 300 bgs. "
" 93 cks. "
" 275 pks. Phillipps & Graves
" 3 Robinson, Roberts & Co.
Sweden, 30 Mount & Co.

Paraffin Scale—
U.S.A., 158 t. 11 c. Anglo-American Oil Co.

Paraffin Wax—
Holland, 1 t. Wilkins & Campbell
" 2 T. H. Lee
Straits, 3 c. Crown Agents for Colonies
Holland, 19 Leach & Co.

Phosphate Rock—
U.S.A., 2 t. Balfour, Williamson & Co

Pumbago—
Holland, 13 cs. Hernu, Peron & Co.
Ceylon, 118 brls. Doulton & Co.
" 92 G. R. Haller
" 53 J. Greig
Germany, 39 cks. Craven & Co.
Japan, 71 bgs. G. R. Haller
Germany, 54 cks. Juett & Cain
Ceylon, 72 brls. Marshall & French

Potash—
Germany, £230 M. Benscher

Potassium Bromide—
France, £60 R. W. Greeff & Co.

Potassium Carbonate—
Germany, 9 cks. T. H. Lee
France, 4 J. Barber & Co.
Germany, 10 Steel & Co.

Potassium Chlorate—
Sweden, 20 kgs. G. Boor & Co.
" 4 cks. "
France, 9 Bell & Co.
Holland, 10 Kirkpatrick, Barr & Co.

Potassium Muriate—
Germany, 180 bgs. F. W. Berk & Co.

Potassium Permanganate—
Germany, 44 kgs. Zimmermann & Co.
" 49 J. T. Rennie, Son & Co.

Potassium Prussiate—
France, 3 cks. Symons & Co.
Belgium, 10 J. Owen

Potassium Sulphate—
Germany, 420 bgs. F. W. Berk & Co.

Pyrogallic Acid—
Holland, 9 cs. W. H. Muller & Co.

Red Lead—
Holland, 26 pks. Muller & Co.
Germany, 39 cks. J. D. Budd
" 29 Randall Bros.
France, 80 brls. J. Watt & Son

Ripolin—
U.S.A., 10 cks. Duggan, Noel & Co.
Holland, 106 pks. Phillipps & Graves

Rosin—
France, 150 cks. Watt & Son
Belgium, 50 Prod. Brokers' Co.
Holland, 248 pks. Van Dam & Co.

Rosin Oil—
U.S.A., £210 Johnson & Phillips

Saltpetre—
Germany, 10 t. P. Hecker & Co.

Silver Nitrate—
Germany, £375 T. H. Lee

Silver Ore—
U.S.A., 11 t. B. Ackerley & Son

Soap—
France, £61 Beresford & Co.
" 16 Major & Field
Belgium, 56 D. C. Thomas & Son
Germany, 97 L. & I. D. Jt. Co.
U.S.A., 136 Lunham & Moore
Holland, 58 W. H. Muller & Co.
France, 245 Phillipps&Horne
" 28 L. & I. D. Jt. Co.
Belgium, 45 B. & F. Wf. Co.
U.S.A., 631 Davis & Co.
" 10 E. L. Arnoot
France, 38 Mory & Co.
Belgium, 5 J. Cockerill Line

Soap Powder—
Germany, £569 London & Rhine S. Office

Soda—
Belgium, 2 t. Pickfords, Ld.
Germany, 8 c. A. & M. Zimmermann
" 12 T. H. Lee
" 4 Argo S.S. Co
Belgium, 2 1 J. Harrison
Holland, 25 Petri Bros.
" 75 2 A. & M. Zimmermann
U.S.A., 4 16 American Exp. Co.

Soda Ash—
Belgium, 25 t. District Chem. Co.

Sodium Acetate—
France, 20 t. J. Harrison & Co.
Belgium, 11 P. F. Knowlden

Sodium Bicarbonate—
Germany, 32 t. 3 c. London & Rhine S. Office
" 30 H. Finkler & Co.

Sodium Nitrate—
Germany, 50 t. G. M. Bauer

Sodium Sulphate—
Germany, 12 c. Prop. Hay's Wf.

Starch—
Canada, Atl., 5 t. Lawrence & Co.
Belgium, 8 10 c. Leach & Co.
" 13 15 Sheldon & Co.
Germany, 7 10 J. Barber & Co.
Holland, 4 T. H. Lee
Belgium, 2 Henderson, Craig & Co.
" 5 Little & Johnston
France, 7 C. E. Wood
" 13 10 A. C. Hitchcock
Holland, 15 10 Little & Johnston
" 5 1 Robinson, Roberts & Co.
" 1 12 W.H.Muller & Co.
" 2 Burgoyne & Co.
" 2 5 Kay & Mayo
Belgium, 1 5 C. E. Wood
" 3 Leach & Co.
France, 1 Kay & Mayo

Stearine—
Belgium, 126 bgs. G. Jennings
" 5 cs. "
" 88 Hill & Sons
Holland, 25 J. E. Tibbs
" 25 brls. W. H. Muller & Co.

Sulphur—
Germany, 40 t. P. Hecker & Co.

Tallow—
France, 6 bgs. Hill & Sons
N.S.W., 15 cks. Vokins & Co.
" 35 Borthwick & Co.
U.S.A., 159 Halls & Co.
N.S.W., 52 Lucas & Spencer's Wf.

Tannic Acid—
Holland, 5 cks 5 pks. W. H. Muller

Tartaric Acid—
Holland, 30 kgs. F. C. Devon & Co.
" 50 cks "
" 54 Kirkpatrick, Barr
" 20 kgs & Co.

Thorium Nitrate—
Belgium, £152 Argo S.S. Co.
Germany, 330 "

Tin Ore—
Victoria, 6 t. J. Cockerill Line

Turpentine—
N. Russia, 260 t. Ldn. Oil S. Co.
" 150 brls. "
France, 200 J. Watt & Son

Ultramarine—
Holland, 3 pks. Muller & Co.
" 1 ck. T. Farmiloe
" 5 cs. O. Lechla

Wax—
Holland, 1 bx. Robinson, Roberts & Co.
Germany, 100 bgs. L. & I. D.
" 3 cs. Jt. Co.
Aden, 6 "
Germany, 40 London & Rhine
" 62 bgs. S. Office
France, 1 cs. L. & I. D. Jt. Co.
Germany, 3 bgs. P. J. Johnson
" 12 Prop. Hay's Wf.
Aden, 10 cs. Cook & Co.
Germany, 20 23 pks. T. H.
" 20 bgs.5 brls. Lee
Japan, 100 cs. Kiver & Co.
Belgium, 1 dm. D. C. Thomas & Son

White Lead—
Belgium, 10 pks. Felton & Crepin
Holland, 3 Muller & Co.
U.S.A., 67 Greeff & Co.
Germany, 42 cks. Randall Bros.
Holland, 2 London & Rhine S. Office
Belgium, 9 brls. Lyon & Co.
" 5 cks. "
U.S.A., 10 pks. R. W. Greeff & Co.
France, 62 brls. J. Watt & Son

Wolfram Ore—
Straits, 1 t. Major & Field

Zinc Oxide—
U.S.A., 10 cks. Morris,
" 599 brls. Ashby & Co.
" 501 pks. "
Holland, 200 Litchfield & Soundy
" 30 Felton & Crepin
Germany, 1 Argo S.S. Co.
" 25 Morris, Ashby & Co.
Holland, 100 brls. "
" 75 cks. Burnell & Co.
Germany, 25 cs. Gross, Sherwood & Co.

Zinc White—
Holland, 100 cks. Spies Bros.

LIVERPOOL

Week ending November 16.

Antimony (Regulus)—
Havre, 20 cks.

Barium Sulphate—
Antwerp, 120 pks.

Barytes—
Antwerp, 34 cks.
Rotterdam, 32 100 bgs.
Bremen, 200

Bauxite Ore—
Bordeaux, 75 t. R. J. Francis & Co.

Beeswax—
Boston, 7 cs.
Bombay, 7

Bismuth Ore—
Rosario, 45 bgs.

Bone Ash—
B. Ayres, 64 t.

Bones—
Boston, 118 bgs.
B. Ayres, 623
M. Video, 686
Tyre, 17 t. 10 c.

Borax—
Hamburg, 15 cks.

Camphor—
Kobe, 100 cs.
Singapore, 169 pcs.
Hamburg, 2 dms.

Caoutchouc—
Havre, 162 pks.
Havre, 195 bgs. Cunard S.S. Co.

Carbon Black—
Boston, 30 cs.

Casein—
Hamburg, 54 brls.

Castor Oil—
Calcutta, 252 cs.

Chemicals (*otherwise undescribed*)
St. Nazaire, 20 crts.
New York, 34 pks.

Chrome Ore—
Philadelphia, 12 brls.

Coal Products—
Alizarine
Rotterdam, 7 brls.

Colours—
Rotterdam, 3 cks.
Bremen, 12 72 bgs.
Hamburg, 13 12 pks.

Copper Ore—
Hamburg, 39 bgs.
Singapore, 8,192

Copper (Regulus)—
Alexandria, 2 pks.

Cottonseed Oil—
New York, 290 brls.
Demerara, 2 cs.

Cream of Tartar—
Bordeaux, 72 cks.
Barcelona, 10
Marseilles, 20 brls.

Dried Blood—
B. Ayres, 678 bgs.
M. Video, 186

Dyestuffs—
Bark Extract
Baltimore, 60 brls. McArthur & Co.
Cutch
Singapore, 1,429 bxs.
Divi Divi
Hamburg, 54 bgs.
Dyewood Extract
Philadelphia, 225 brls.
Gambier
Singapore, 429 bgs. / 1,778 brls.
Myrabolans
Bombay, 2,776 bgs.
Quebracho Extract
B. Ayres, 3,632 bgs.
Hamburg, 20 cks.
Sumac
Barcelona, 100 bgs.
Tannin Extract
Bordeaux, 234 cks.
" 439 R. J. Francis & Co.

Colour (Earth)—
Rotterdam, 1 ck.

Farina—
Parnahyba, 6 bgs.

Ferro Chrome—
Havre, 10 cs.

Ferro Silicon—
Fredrikstad, 75 cs.

Glucose—
New York, 420 brls.

Glue—
St. Nazaire, 21 crts.
Rouen, 2 cs.

Gluestock—
Marseilles, 110 brls.

Glycerine—
Hamburg, 10 cs.

Guano—
B. Ayres, 247 bgs.

Lactic Acid—
Hamburg, 25 cks.

Lead Ore—
Hong Kong, 452 bgs.

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Linseed Oil—
Rotterdam, 79 brls.
Lithopone—
Rotterdam, 12 cks.
Magnesite—
Hamburg, 125 bgs.
Manganese Ore—
Poti, 5,000 t.
Manganese Silicate—
Bordeaux, 56 cks.
Manure—
La Plata, 4,356 bgs.
Antwerp, 680
Mineral White—
Bordeaux, 700 bgs.
Malaga, 20
Ochre—
Marseilles, 20 brls.
Oleine—
Antwerp, 9 cks.
Olive Oil—
Bordeaux. 96 cs.
New York, 35 brls.
Marseilles, 2 cs.
Oxalic Acid—
Rotterdam, 7 cks.
Hamburg, 5
Paraffin Scale—
New York, 77 brls.
Paraffin Wax—
Baltimore, 108 brls.
Phosphate—
Ternuezen, 270 t.
Bona, 1,810
Potash—
Dunkirk, 128 dms.
Potash Lye—
Hamburg, 55 dms.
Potassium Carbonate—
Hamburg, 8 cks.
Potassium Permanganate—
Hamburg, 40 kgs.
Potassium Prussiate—
Hamburg, 2 cks.
Pyrites—
Huelva, 1,710 t.
„ 3,336 United Alkali Co. Ltd.
Pyrites (Copper)—
Huelva, 33 t.
Red Lead—
Antwerp, 1,400 bxs.
Rotterdam, 37 cks.
Rosin—
Savannah, 1,260 brls.
Bordeaux, 100 cks.
Rubber—
Bata, 1 ck. J. Holt & Co.
„ 3 Hatton & Cookson
Elobey, 4 J. Holt & Co.
„ 1 Hatton & Cookson
Koko, 7 „
Cape Lopez, 2 „
Gaboon, 6 J. Holt & Co.
Kribi, 5 „
„ 25 Hatton & Cookson
Rio del Rey, 1 African Assocn.
„ 3 T. Welsh & Co.
„ 1 Paterson, Zochonis
Accra, 4
C. Coast, 3 H. B. W. Russell & Co.
„ 1
„ 2 Miller's, Ld.
„ 1 Deutsch W. A. Handel
Sekondi, 13
Maranham, 9 cs.
Ceara, 52 175 bls.
Parnahyba, 1,728 pks.
Hamburg, 10 bls. 9
G. Bassa, 1 ck. Liberian Rubber Corp.
Monrovia, 1 „
S. Leone, 2 Soc. Coml O. Africa
Bathurst, 4 A. Cros & Co.
„ 2 Cie, F. & Co.
„ 1 Bat. Trading Co.
Dakar, 15 B. Sturker & Co.
„ 12 brls. Cie, F. & Co.
Hamburg, 38 bgs. 11 pks.

Rubber—
New York, 21 brls.
Antwerp, 7 cs.
Manaos, 672
Para, 818
New York, 171 bgs.
Iquitos, 1,339
212 cs.
C. Cocha, 91
Letitia, 67
New York, 20 brls. N. Y. Comel
Saltpetre—
Karachi, 122 bgs.
Salt (Waste)—
Hamburg, 106 t. 1,500 bgs.
Soapstock—
Philadelphia, 174 brls.
Starch—
Amsterdam, 40 bxs.
Hamburg, 88 cs.
Bremen, 560
N. York, 20 100 bgs.
Stearine—
Antwerp, 26 bgs.
„ 13 J. Fletcher & Co.
Tallow—
New York, 933 cks.
Seattle, 200 tres.
Dunkirk, 69 bgs.
Tartar—
Rotterdam, 4 cks.
Turpentine—
Savannah, 400 brls.
N. Orleans, 550
Ultramarine—
Bremen, 4 cks.
Rotterdam, 28
Wax—
Kobe, 5 cs.
Maranham, 7 bgs.
Parnahyba, 707
N. York, 50 cs. 2,698 brls.
Philadelphia, 1,364
Bathurst, 17 bgs. A. Cros & Co.
„ 12 Cie, F. & Co.
„ 8 Bat. Trading Co.
Dakar, 11 A. Cros & Co.
„ 33 brls. Cie, F. & Co.
Hamburg, 28 pks.
White Lead—
Rotterdam, 70 cks.
Zinc Ashes—
Rouen, 222 bgs. Co-op. W'sale Soc., Ld.
Zinc Oxide—
New York, 1,200 cks.
Antwerp, 48 brls.

HULL.

Week ending November 16.

Acetic Acid—
Rotterdam, 38 cks. Hull & N. S.S. Co.
Albumen—
St. Petersburg, 25 cs. Wilson, Sons & Co.
Antimony—
Antwerp, 5 cks.
Asbestos—
Riga, 12 pks.
St. Pet'burg, 150 bgs. Wilson, Sons & Co.
Hamburg, 23 Wilsons & N.E. R. S. Co.
Barytes—
Antwerp, 655 bgs. 183 cks.
Rotterdam, 34 Hull & N. S.S. Co.
Antwerp, 113 Wilsons & N.E. 60 bgs. R. S. Co.
Calcium Carbide—
Drontheim, 220 dms.
Casein—
Hamburg, 5 cks. Wilsons & N.E. R. S. Co.
Chemicals (*otherwise undescribed*)
Boston, 199 bgs. 261 cks.
Rotterdam, 12 5 cs. Hull 7 pks. & N. S.S. Co.
Stettin, 4 brls. Wilson, Sons & Co.

Coal Products—
Alizarine
Rotterdam, 55 pks. Hull & N. S S. Co.
Aniline
Rotterdam, 407 pks. Hull & N. S.S. Co.
Pitch
Antwerp, 14 cks. Wilsons & N.E. R. S. Co.
Tar Oil
Rotterdam, 94 cks. Hull & N. S.S. Co.
Colours—
Copenhagen, 12 pks. Wilson, Sons & Co.
Boston, 200 cs. „
„ 455
Hamburg, 6 Malcolm & Sons
„ 5
Amsterdam, 15 cks. Hull & N. S.S. Co.
Antwerp, 138 pks. Wilsons & N.E. R. S. Co.
Colours (Earth)—
Antwerp, 10 bgs.
Cream of Tartar—
Rotterdam, 4 cks. Hull & N. S.S. Co.
Dextrine—
Stettin, 100 bgs.
Dyestuffs—
Bark Extract
Hamburg, 50 cks.
Indigo
Rotterdam, 4 cks. Hull & N. S.S. Co.
Sumac
Palermo, 824 bgs.
Tannin Extract
Messina, 25 brls.
Farina—
Stettin, 120 bgs.
Ferro Silicon—
Antwerp, 32 cks. 18 pks.
„ 5 cs. Wilsons & N.E.R. S. Co.
Fish Oil –
Antwerp, 60 cks.
Glucose—
Stettin, 10 cks.
Glue—
Dunkirk, 28 cks.
Rotterdam, 80 bgs. Hull & N. S.S. Co.
Glue Stock—
Hamburg, 10 bls.
Kainit—
Hamburg, 50 t. 500 bgs.
Lithopone—
Antwerp, 20 cks. Wilsons & N.E. R. S. Co.
Magnesite—
Fiume, 97 cs. Wilson, Sons & Co.
„ 527 bgs.
Mineral White—
Trieste, 150 bgs.
Ochre—
Marseilles, 14 cks.
Boston, 130 brls. Wilson, Sons & Co.
Oleine—
Dunkirk, 8 cks.
Olive Oil—
Messina, 33 brls.
Leghorn, 35 cs. Wilson, Sons & Co.
Oxalic Acid—
Hamburg, 7 cks.
Paraffin Scale—
Boston, 1,170 brls.
Phosphate—
Ghent, 150 t.
Dunkirk, 100
Plumbago—
Genoa,
Hamburg, 22 cks. 6 pks.
Genoa, 80 bgs.
Potash—
Hamburg, 20 dms. Wilsons & N.E. R. S. Co.
Saltpetre—
Hamburg, 24 cks. 10 bgs.
Soap—
Marseilles, 14 cs. Wilson, Sons & Co.
Naples, 8 „

Soap—
Rotterdam, 13 cs. Hull & N. S.S. Co.
Soap Powder—
Boston, 1,000 bxs. Wilsons & N.E. R. S. Co.
Soda Crystals—
Ghent, 50 bgs.
Starch—
Boston, 20 brls.
Dunkirk, 260 cs.
Antwerp, 486
Bremen, 644 Veltmann & Co.
Ghent, 40 Wilson & N.E. R. S. Co.
„ 56
Tallow—
Antwerp, 10 bgs. Wilsons & N.E. R. S. Co.
Hamburg, 10 cs.
Tartaric Acid—
Bari, 4 brls. Wilson, Sons & Co.
„ 20
Tungsten—
Hamburg, 90 cs.
Turpentine –
Rotterdam, 7 cks. Hull & N. S.S. Co.
White Lead—
Rotterdam, 98 cks. Hull & N. S.S. Co.
Zinc Oxide—
Antwerp, 5 brls.
Zinc White—
Marseilles, 10 brls.

MANCHESTER.

Week ending November 16.

Ammonia—
Hamburg, 10 btls.
Antimony Lactate—
Hamburg, 4 cks.
Antimony Salt—
Rouen, 4 cks.
Rotterdam, 4 cs.
Barium Sulphate—
Antwerp, 100 bgs.
Barytes—
Antwerp, 40 cks.
Hamburg, 41 cks.
Calcium Carbide—
Christiania, 330 bxs. 150 dms.
Gothenburg, 30
Camphor—
Hamburg, 1 cs.
Castor Oil—
Antwerp, 28 brls.
Chemicals (*otherwise undescribed*)
Rotterdam, 11 cks. 14 pks.
Hamburg, 16 61 cs.
Coal Products—
Alizarine
Rotterdam, 16 cks.
Aniline
Antwerp, 41 brls.
Beta Naphthol
Rotterdam, 4 cs.
Creosote Salt
Rotterdam, 15 cks.
Pitch
Hamburg, 35 cks.
Colours—
Antwerp, 10 cks.
Boston, 20 cs.
Rotterdam, 377 pks.
Treport, 6
Antwerp, 8 6 cs. J. T. Fletcher & Co.
Colours (Earth)—
Rotterdam, 5 cks. 60 bgs.
Copper Ashes—
Treport, 522 cks.
Farina—
Hamburg, 300 bgs.
Rotterdam, 265 50 brls.
Glue—
Antwerp, 179 brls.
Boston, 7
Rouen, 7 cs.
Hamburg, 240 bgs.
Treport, 65 13 pks.

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Lead Acetate—
Rotterdam, 34 cks.

Litharge—
Rotterdam, 14 cks.

Lithopone—
Hamburg, 20 cks.

Manganese Ore—
Bombay, 2,650 t.

Manganese Salts—
Hamburg, 1 ck.

Oxalic Acid—
Hamburg, 3 cks.

Potash—
Hamburg, 2 cks.

Potash Lye—
Hamburg, 10 dms.

Potassium Chlorate—
Treport, 8 cks.

Potassium Prussiate—
Rouen, 3 cks.
Hamburg, 6
Antwerp, 25 17 brls.

Rosin—
Antwerp, 26 cks.

Silica—
Antwerp, 100 bgs.

Soap—
N. Orleans, 2,450 brls.
Boston, 850 cs.

Soda Crystals—
Antwerp, 14 cks.

Sodium Acetate—
Antwerp, 54 cks.

Sodium Chlorate—
Antwerp, 66 cks.
Gothenburg, 56

Sodium Phosphate—
Antwerp, 17 cks. 113 brls.

Starch—
New York, 600 bgs.
Amsterdam, 1 cs.
Antwerp, 290 J. T. Fletcher & Co.
" 982

Stearine—
Antwerp, 1 ck. 196 bgs.

Tallow—
Boston, 340 brls.

Tanning Extract—
Hamburg, 9 cks.

Ultramarine—
Rotterdam, 4 cks. 32 cs.

Zinc Oxide—
Rotterdam, 8 cks.

GLASGOW.

Period ending November 21.

Acetic Acid—
Rotterdam, 2 cks.

Acetone—
Rotterdam, 6 dms.

Ammonium Carbonate—
Gothenburg, 4 kgs.

Ammonium Oxalate—
Hamburg, 10 cks.

Arsenic—
Oporto, 28 brls.

Asbestos—
Rotterdam, 4 cs.
Rouen, 1
Hamburg, 120 bgs.

Barytes—
Hamburg, 100 bgs.
Rotterdam, 46 cks. 94 pks.

Barium Sulphate—
Antwerp, 1,072 bgs. 51 cks.

Boracic Acid—
Rotterdam, 1 ck.

Borax—
Rotterdam, 2 cks.

Calcium Carbide—
Christiania, 30 bxs.
Gothenburg, 100 dms.

Caoutchouc—
Hamburg, 5 cks.

Carbonate of Lime—
Marseilles, 4 cs.

Castor Oil—
Antwerp, 44 brls.

Caustic Potash—
Hamburg, 60 dms.

Chemicals (*otherwise undescribed*)
Rouen, 10 cks.
Rotterdam, 1 cs.
Hamburg, 30 4

Citric Acid—
Bordeaux, 8 cks.

Coal Products—
Alizarine
Rotterdam, 133 pks. 19 brls.
Aniline
Rotterdam, 14 cs. 78 pks.
Aniline Salt
Hamburg, 8 cs.
Naphtylamine
Rotterdam, 10 brls.
Naphthol
Rotterdam, 4 cks.
Paranitraniline
Rotterdam, 25 cks.

Colours—
Rotterdam, 220 pks.

Colours (Earth)—
Antwerp, 11 cks.
Rotterdam, 6 cs. 50 bgs.

Cream of Tartar—
Marseilles, 53 cks.

Cryolite—
Rotterdam, 1 ck.

Dyestuffs—
Myrabolans
London, 29 cs.
Sumac
Palermo, 340 bgs.

Felspar—
Rotterdam, 3 bgs.

Ferro Silicon—
Antwerp, 17 cks.

Gelatine—
Rotterdam, 2 cs.

Glue—
Rotterdam, 10 cs.
Antwerp, 25 cks. 5 bgs.
Hamburg, 80

Kainit—
Hamburg, 150 t. 500 bgs.

Lactic Acid—
Hamburg, 60 cks.

Linseed Oil—
Amsterdam, 57 brls.

Litharge—
Rotterdam, 17 cks.

Lithopone—
Rotterdam, 62 cks.

Magnesite—
Christiania, 204 bgs.

Manure—
Hamburg, 15 dms.

Mineral White—
Bordeaux, 100 bgs.

Ochre—
Marseilles, 20 cks.

Oleine—
Rotterdam, 6 brls.

Oxalic Acid—
Hamburg, 3 cks.

Paraffin Wax—
Amsterdam, 350 bgs.

Phenacetin—
Rotterdam, 1 cs.

Phosphate Rock—
Antwerp, 100 bgs.

Plumbago—
Colombo, 148 brls.
Hamburg, 11 cks.

Potash—
Hamburg, 17 cks.

Potassium Muriate—
Hamburg, 1,000 bgs.

Potassium Prussiate—
Hamburg, 6 cks.

Red Lead—
Rotterdam, 20 cks.

Rosin—
Oporto, 38 cs.
Philadelphia, 91 brls. 100

Rubber—
Antwerp, 2 cks.

Saltpetre—
Rotterdam, 1 ck. 46 kgs.

Soap—
Boston, 13 cs.
Marseilles, 10 cks.
Antwerp, 2

Soap Lyes—
Marseilles, 10 dms.

Soda—
Gothenburg, 20 kgs.
Amsterdam, 1 bg.
Rotterdam, 16 cks.

Soda Crystals—
Ghent, 450 bgs.
Antwerp, 30

Sodium Acetate—
Antwerp, 18 cks.

Sodium Fluoride—
Rotterdam, 1 ck.

Sodium Phosphate—
Antwerp, 13 cks.

Starch—
Ghent, 10 cs.
Antwerp, 80
Rotterdam, 24
Amsterdam, 50 bgs.

Stearine—
Gothenburg, 50 brls.

Sulphur—
Catania, 172 cks. 10 pks. 1,260 bgs.

Tartar—
Oporto, 5 cks.
Bordeaux, 190

Tartaric Acid—
Rotterdam, 12 cks.

Tin Oxide—
Rotterdam, 6 cks.

Ultramarine—
Rotterdam, 5 cks.

Wax—
Calcutta, 273 bgs.
Hamburg, 22
Philadelphia, 175 brls.

White Lead—
Rotterdam, 81 cks.

Zinc Bisulphite—
Rotterdam, 2 cks.

Zinc Oxide—
Antwerp, 50 brls.

TYNE.

Week ending November 16.

Acetic Acid—
Antwerp, 4 cks. 80 crbys. Tyne S.S. Co.

Alum—
Hamburg, 52 cks. Tyne S.S. Co.

Calcium Carbide—
Trondhjem, 350 dms. Matthiessen & Co.

Coal Products—
Tar
Bergen, 10 cks. Matthiessen & Co.

Colours—
Antwerp, 2 cks. Tyne S.S. Co.
Hamburg, 3 8 pks. " 1 brl.

Copper Oxide—
Hamburg, 34 dms. Tyne S.S. Co.

Graphite—
Hamburg, 1 bg. Tyne S.S. Co.

Magnesium Chloride—
Hamburg, 13 cks. Tyne S.S. Co.

Metal Ashes—
Hamburg, 416 bgs. Tyne S.S. Co.

Oleine—
Rotterdam, 12 brls. Tyne S.S. Co.

Sodium—
Bergen, 2 cs. Matthiessen & Co.

Starch—
Rotterdam, 48 cs. Tyne S.S. Co.
Antwerp, 12 "

Stearine—
Antwerp, 13 bgs. Tyne S.S. Co.

Turpentine—
Hamburg, 6 pks. Tyne S.S. Co.

GOOLE.

Week ending November

Ammonium Sulphate—
Ghent, 20 bgs.

Antimony Salt—
Rotterdam, 10 cks.

Barytes—
Hamburg, 40 cks.
Rotterdam, 56
Antwerp, 90 bgs.

Caoutchouc—
Boulogne, 6 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 21 cks.
Rotterdam, 4
Amsterdam, 10
Boulogne, 19 2 cs. 58 dms.

Dyestuffs (*otherwise undescribed*)—
Boulogne, 88 cks.
Rotterdam, 50 cs.
Hamburg, 48 145 218 pks.
Antwerp, 47 5

Farina—
Delfzyl, 4,878 bgs.
Hamburg, 200
Antwerp, 50

Glue—
Hamburg, 200 bgs.

Oleine—
Dunkirk, 8 cks.

Oxalic Acid—
Hamburg, 5 cks.

Phosphate of Lime—
Boulogne, 915 bgs.

Potash—
Dunkirk, 2 cks.
Hamburg, 108

Pyrites (Iron)—
Seville, 1,075 t.

Salt (Waste)—
Hamburg, 170 t.

Saltpetre—
Hamburg, 1 ck.

Starch—
Dunkirk, 230 cs.
Rotterdam, 2
Antwerp, 40

Sulphur—
Antwerp, 16 cs.

Wolfram—
Rotterdam, 5 cs.

GRIMSBY.

Week ending November 13.

Bog Ore—
Antwerp, 50 t.
Rotterdam, 110

Calcium Carbide—
Christiania, 40 dms.

Caoutchouc—
Hamburg, 40 cs.
Antwerp, 1
Rotterdam, 4

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks. 4 cs.
Antwerp, 1

Colours—
Hamburg, 10 cks. 37 pks.
Antwerp, 61 109
Rotterdam, 10 51 bgs.

Ferro Tungsten—
Dieppe, 1 ck.

Glue—
Hamburg, 200 bgs.
Antwerp, 20

Glue Stock—
Hamburg, 151 bgs.

Saltpetre—
Rotterdam, 135 bgs.

Soap—
Antwerp, 20 cs.

Starch—
Antwerp, 80 cs.
Rotterdam, 5

Wax—
Hamburg, 7 bgs.

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EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending November 20.

Alcohol (Wood Spirit)—
Dunkirk, 1,150 gals.

Alumina Sulphate—
B. Ayres, 60 cks. £78

Ammonia—
Calcutta, 4 cks. £11
Durban, 17 cs. 21
Algoa Bay, 30 44
Penang, 4 5
Delagoa Bay, 7 13
Wellington, 6 8
Melbourne, 10 15
E. London, 6 9
Malta, 10 15
C. Town, 20 30
Callao, 10 10
Fremantle, 10 29

Ammonia (Anhydrous)—
C. Town, 34 cylds. £237
Durban, 33 230
La Plata, 20 220
Foochow, 2 cs. 21

Ammonium Carbonate—
Aarhus, 10 cks. £29
Antwerp, 43 25 brls. 145
Hamburg, 61 148
Penang, 6 cs. 7
Paris, 10 27
Delagoa Bay, 5 11
C. Town, 2 7
Helsingfors, 5 13
Cologne, 5 30
Calcutta, 10 10 50
Bombay, 2 8
Copenhagen, 15 42

Ammonium Muriate—
Brussels, 7 cks. £44

Ammonium Sulphate—
Delhi, 4 t. 18 c. £65
Mauritius, 100 1 300
Yokohama, 75 906
Kobe, 402 15 4,848
Valencia, 255 3,112
Gandia, 100 1,200

Antimony—
St. Petersb'g, 10 t.

Antimony (Regulus)—
Rotterdam, 5 t.
Baltimore, 10 4 c.
Calcutta, 1
Copenhagen, 1
Genoa, 11
New York, 10 4

Antimony Sulphide—
Treport, 114 cks.

Arsenic—
B. Ayres, 5 dms. £10
Durban, 25 40
Sydney, 5 9
Christiania, 5 cks. 29

Asbestos—
Auckland, £15
Shanghai, 21
Wellington, 51

Bisulphite of Lime—
Wellington, 10 hhds. £14

Barium Binoxide—
Paris, 30 t. 1 c. £1,035

Barium Nitrate—
Bombay, 9 c. £10

Barium Peroxide—
Melbourne, 1 cn. £5

Boracic Acid—
Bombay, 10 c. £15
Algoa Bay, 5 7

Borax—
Boulogne, 1 cs. £7
Madras, 4 c. 7
Delagoa Bay, 1 t. 38
Hamburg, a qty. 150
Rotterdam, ,, 82
Durban, 3 t. 10 126
Helsingfors, 11 8

Carbonate of Lime—
Bordeaux, 18 cks. £4

Carbon Bisulphide—
Sydney, 65 dms. £39

Caustic Potash—
Napier, 6 c. £10

Caustic Soda—
Napier, 3 c. £5
Sydney, 15 13

Chalk—
Boston, 300 t.

Chemicals (*otherwise undescribed*)
Alexandria, 11 cs. £70
Madras, 7 21
Calcutta, 1 5
Hamburg, 14 cks. 9 155
Sydney, 7 34
Cadiz, 4 15
Launceston, 17 25
Trinidad, 1 6
Rotterdam, 5 2 pks. 17
Beira, 4 8
Melbourne, 25 65
Adelaide, 20 kgs. 16
Mersyne, 5 pks. 43
Bangkok, 10 41
Auckland, 12 c. 2 61
Oarmaru, 1 5
Montreal, 2 pks. 9
Genoa, 4 182
Bergen, 2 96
Christiania, 2 10
Libau, 4 118
St. Petersburg, 6 kgs. 9
Rangoon, 12 131
Townsville, 4 8
Shanghai, 1 40
C. Town, 11 c. 3 37
Fremantle, 90 228
Singapore, 1 10
Toronto, 10 70
Paris, 1 20
Fremantle, 8 t. 1,064
Grenada, 5 25
Rio Grande, 3 17
Lyttelton, 3 23
Ostend, 1 8
E. London, 2 8

China Clay—
Hamburg, 13 t.

Citric Acid—
Odessa, 1 t. £195
B. Ayres, 4 732
Colombo, 1 cs. 5
Wellington, 5 kgs. 45
Dunedin, 1 c. 8
Singapore, 1 13
New York, 1 195
Lisbon, 1 11
Hamburg, 10 71
Rotterdam, 12 81
Genoa, 1 2 184
Auckland, 1 182
Colon, 1 ck. 6
Shanghai, 1 6
Hong Kong, 16 45
Valparaiso, 10 108
Calcutta, 2 20
Durban, 4 2 11

Coal Products (*otherwise undes.*)—
Shanghai, £74
Hamburg, 191
Rio de Jan., 7

Coal Products—
Alizarine
Dusseldorf, 10 cks. £603
Boston, 10 128
Tuticorin, 23 307
Calcutta, 25 76
Dunedin, 9 kgs. 150
New York, 5 124
Lyttelton, 4 83
Aniline
Lyttelton, 2 cks. 2 kgs. £50
Aniline Dye
Boulogne, 2 cs. £35
Aniline Oil
Genoa, £280
Anthracene
Cologne, 460 bgs. £300
Benzol
Terneuzen, 2,542 gals.
Carbolic Acid
Melbourne, 30 dms. £18

Coal Products—
Carbolic Acid
Sydney, 5 cks. £14
New York, 142 72 cs. 822
Durban, 3 11
Smyrna, 3 13
Creosote
Montreal, 2 cs. £9
Philadelphia, 291 bgs. 58
Konigsberg, 3 cks. 5
Creosote Salt
Philadelphia, 758 bgs. £93
Naphthaline
New York, 230 cks. £260
Shanghai, 50 cs. 74
Pitch
Gravelines, 170 t. £212
Treport, 171 brls. 380
Port Said, 200 60
Antwerp, 145 20 pks. 190
Cette, 1,205 1,702
Stettin, 1,441 2,089
Tar
Copenhagen, 5 cks. £5
Durban, 10 rnlts. 6
Algoa Bay, 250 dms. 7
Paris, 5 3
Adelaide, 50 29
C. Town, 70 5
Penang, 50 brls. 58
Hamburg, 2 cs. 5
Tar Oil
Marseilles, 6 cks. £8
Rotterdam, 43 brls. 200
Tar Salts
New York, 22 t. £240

Cobalt Chloride—
Kobe, 2 cs. £16

Copper Sulphate—
E. London, 6 c. £8

Cottonseed Oil—
Algiers, 3 t. 16 c.
Bordeaux, 8 9
Copenhagen, 8 5
Le Treport, 4 4
Helsingborg, 16 18
Marseilles, 59 6
Rotterdam, 25

Cream of Tartar—
Melbourne, 1 t. £80

Cryolite—
Adelaide, 3 cs. £33

Cyanide (*otherwise undescribed*)—
Delagoa Bay, 17 t. 16 c. £1,492
Beira, 6 8 289
Fremantle, 10 850

Disinfectants—
Auckland, 5 cs. £14
Bombay, 62 dms. 28
B. Ayres, 6 cks. 42
Durban, 20 120 3 83
St. Petersb'g, 25 60
Fremantle, 45 10 brls. 37
Karachi, 40 dms. 76
Bangkok, 200 19
Hobart, 1 2 18
Calcutta, 31 65 10 brls. 138
Shanghai, 17 45
Tientsin, 10 23
Algoa Bay, 20 kgs. 6
Delagoa B., 100 45
Marseilles, 20 4
Penang, 5 175 dms. 59
Wellington, 30 23 108
San Benito, 20 13
La Libertad, 30 3
Jamaica, 10 5
Adelaide, 10 23
Libau, 1 1 44
Boston, 8 275
Singapore, 2 6
Hong Kong, 150 11
P. Sudan, 150 44
Genoa, 3 68
Bremen, 5 7
Bordeaux, 33 42
Colombo. 50 pks. 84 dms. 107
Copenhagen, 43 30
Lyttelton, 1 tnk. 45

Fertiliser—
Durban, 2 t. £20

Glue—
Stettin, 2 t.
Tokio, 10 c.

Glycerine—
Maceio, 3 c. £8
Paris, 2 cs. 6
Algoa Bay, 2 6
Marseilles, 2 7
C. Town, 4 10
Lisbon, 2 20
Lyttelton, 1 5

Guano—
Kobe, 200 t. £1,421
Azores, 1 4 c. 12

Hydrochloric Acid—
Durban, 1 t. 6 c. £7

Hyposulphite of Lime—
Fiume, 2 cs. £21

Linseed Oil—
Adelaide, 2 c.
Alexandria, 10 t. 15
Auckland, 9 6
B. Ayres, 19
C. Town, 3 7
Cebu, 10
Curacao, 2
Delagoa Bay, 1
Durban, 4 19
Fremantle, 2
H. Kong, 9
Launceston, 1 7
Madras, 1
Melbourne, 52 13
Oporto, 2 9
Paris, 6 15
Penang, 18
Perth, 8 12
P. Alegre, 3 17
P. Elizabeth, 3 17
P. Said, 15
Rio de Jan., 40 12
Rockhampton, 1 3
St. John, N.B., 5 3
Santos, 7
Seychelles, 8
Shanghai, 18 6
Singapore, 1 9
Sydney, 72 1
Wellington, 9 17
Brussels, 10 1
Calcutta, 13
Canaries, 3 5
Gisborne, 2 1
Hamburg, 1 1
Havre, 4 6
Madeira, 11
Mauritius, 1 14
Mojl, 2 5
Nagasaki, 6 10
Santander, 1 15
Syra, 2 11
Tampico, 1 1
Tangiers, 7
Vera Cruz, 12

Manganese Bronze—
Bremen, 10 t.

Manure—
Colombo, 10 t. £45
Alicante, 609 bgs. 1,057
Madeira, 2 1 c. 18
Las Palmas, 15 5 60
Barbadoes, 65 265
Durban, 59 13 208
Marlaix, 120 200
Penang, 320 bgs. 190
La Libertad, 7 69
Yokohama, 50 1 380
Mauritius, 50 1 506
New York, 2 28

Muriatic Acid—
Madras, 1 t. £14

Nickel Sulphate—
Tokio, 5 cks. £40

Nitric Acid—
Durban, 1 t. 6 c. £14

Oxalic Acid—
Algoa Bay, 3 c. £6

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Paraffin Wax—
Palermo, 1 t. 10 c.

Phosphorus—
Sydney, 22 cs. £145

Phosphorus (Amorphous)—
B. Ayres, 6 cs. £96
Paranagua, 2 11
San Francisco, 2 20

Pitch (Glue)—
Bremen, 3 t.

Plumbago—
Auckland, 10 c.
Brisbane, 1 t. 1

Potash—
Perth, 1 c. £5

Potassium Chlorate—
Rio de Jan., 5 c. £8

Potassium Cyanide—
Paris, 14 c. £51

Potassium Iodide—
Brisbane, 1 c. £23
H. Kong, 1 46

Potassium Permanganate—
Trinidad, 5 c. £9

Quinine—
Calcutta, 1,500 ozs.

Salammoniac—
Dusseldorf, 1 t. £40
Mersyne, 10 c. 20

Salt—
Haiphong, 2 t.
Otago, 30
Sydney, 1

Saltpetre—
Lisbon, 10 bgs. £13
Bahia, 2 t. 9 c. 65
Oporto, { 7 7 / 280 bgs. } 686
Rio de Jan., 6 t. 12 174
New York, 10 brls. 33
Payta, 10 12
Santos, 10 10
Lyttelton, 3 t. 73

Sheep Dip—
Napier, 164 cs. £280
C. Town, 25 150 dms. 70

Silver Nitrate—
Bombay, 1 cs. £7

Soap—
Adelaide, 2 c.
Aden, 2 t. 4
Alexandria, 5 5
Amsterdam, 2
Antofagasta, 8
Bangkok, 4
Barcelona, 3
Bombay, 19
Boulogne, 2 1
Bremen, 14
Calcutta, 4 4
C. Town, 1 17
Channel Is., 16
Christchurch, 6
Cochin, 2
Colombo, 3 13
Delagoa Bay, 2 5
Demerara, 15
Bombay, 9
E. London, 1
Genoa, 2
Gibraltar, 10
Hamburg, 4
H. Kong, 1 8
Madras, 3 14
Malta, 3
Marseilles, 1
Mauritius, 3
Mombasa, 1 19
Nelson, 1
Newcastle, 1
Nevis, 13
Ostend, 8
Paris, 10
P. Elizabeth, 2 1
P. Said, 6
Quebec, 2
St. Petersburg, 1 1
Sanitago, 3
Seychelles, 3
Shanghai, 11 17
Singapore, 4
Stockholm, 1
Toronto, 9
Smyrna, 1
Tangiers, 1
Trinidad, 5 12

Soap—
Antwerp, 1 t. 5 c.
Auckland, 2
Durban, 2
Jamaica, 4
Kobe, 14
Limon, 4
Madeira, 3
Manilla, 8
Osaka, 1 2
Otago, 1 3
Rio de Jan., 3
Rotterdam, 6
St. John, N.B., 6

Soda Compound—
Gibraltar, 6 c. £10
Zanzibar, 1 t. 9

Soda Crystals—
Amsterdam, 17 c. £9
H. Kong, 2 t. 9

Sodium Bicarbonate—
B. Ayres, 1 t. 2 c. £12
Oporto, 4 7
Wellington, 5 5
Algoa Bay, 1 14
Montreal, 7 13
P. Sudan, 13 9

Sodium Hypophosphite—
Fiume, 1 c. £12

Sodium Oxalate—
New York, 10 c. £29

Sodium Peroxide—
Melbourne, 10 c. £63

Sodium Phosphate—
Lyttelton, 3 c. £5

Sodium Salicylate—
Bombay, 1 c. £8

Sodium Tartrate—
St. John, N.B., 1 t. 8 c. £74

Starch—
Antofagasta, 4 c.
Delagoa Bay, 2 t. 5
Cyprus, 10
Limon, 5
Melbourne, 1 5
Otago, 5 5
Paris, 10
St. John, N.B., 1
Sydney, 2

Strontium Nitrate—
Bombay, 9 c. £14

Sulphur—
Boulogne, 20 cks. £14
Algoa Bay, 5 t. 8 c. 92
Brisbane, 11 7
Durban, 100 cs. 34

Sulphuric Acid—
Barbadoes, 3 t. 16 c. £13
Colombo, 4 32
Beira, 15 6
Channel Is., 18 10
Algoa Bay, 1 10 15
Alexandria, 1 1 12
Berbice, 2 10 11
Demerara, 3 13
B. Ayres, 7 8
Melbourne, 12 5

Superphosphate—
Durban, 30 t. £95

Superphosphate of Lime—
St. Michaels, 20 t. 2 c. £90
Azores, 28 17 110

Tallow—
Brussels, 15 t. 3 c.
Genoa, 3 2
Hamburg, 20 12
Harlingen, 4 2
Montreal, 4 3
Rotterdam, 24 6
Danzig, 14 4
Odessa, 38 11
Paris, 20 4

Tartaric Acid—
Toronto, 3 c. £7
Wellington, 3 8
Kobe, 2 t. 16 255
Guernsey, 1 5

Verdigris—
Calcutta, 3 cks. £95
Sydney, 2 dms. 18

Wax—
B. Ayres, 12 c.

White Lead—
Auckland, £166
Calcutta, 106
Melbourne, 874
New York, 381
Otago, 165

White Lead—
Perth, £15
C. Town, 20
E. London, 339
Port Elizabeth, 52
Sydney, 449
Wellington, 41

Wolfram Ore—
Rotterdam, 5 t.

LIVERPOOL.

Week ending November 20.

AMENDMENT.

C.T.J., No. 1065, p. 365, Oct. 19.—Ammonium Carbonate, New York, 48 t. 8 c. £144 *should read* 3 t. 7 c. £110.

Acetate of Lime—
Santos, 8 c. £7

Acetic Acid—
Algoa, 4 c. £7
Santos, 18 13
Johannesburg, 4 11
B. Ayres, 6 15

Albumen—
Lisbon, 10 c. £44

Alum—
Varna, 1 t. £6
Bruges, 1 19 c. 10
Melbourne, 1 2 7
Galatz, 11 19 58
Salonica, 1 16 11
Algoa Bay, 8 3 50
Los Angeles, 19 19 113
S. Leone, 1 1
Genoa, 1 6
Brisbane, 1 6
Santos, 10 3
St. Catherina, 2 10 17

Alum (Waste)—
Calcutta, 18 t. £52

Ammonia—
Rio de Jan., 2 c. £24
Lagos, 2 2

Ammonium Carbonate—
Vancouver, 6 c. £10
Oporto, 1 t. 33
Genoa, 19 33
Palermo, 1 33
Barcelona, 1 26
Naples, 19 28
Maranham, 1 cs. 3

Ammonium Chloride—
Rio de Jan., 10 c. £13

Ammonium Muriate—
Carlserona, 5 t. 4 c. £114
Barcelona, 3 68
Teneriffe, 5 10 67
Hiogo, 7 9 179
Philadelphia, 32 14 784
Piræus, 1 12 32
Hamburg, 1 9 38
Baltimore, 15 17 380
New York, 3 1 70
Bilbao, 9 14 233
Trebizonde, 2 1 49
Stamboul, 3 10 84
Constanti'ple, 2 48
Alexandria, 1 24

Ammonium Sulphate—
Cape Town, 19 c. £12
Valencia, 139 t. 18 1,729
Gd. Canary, 7 85
Mauritius, 49 18 596
Bilbao, 9 14 233
Kobe, 100 1,263
Alicante, 15 180
Phila'phia, 140 10 1,689
New York, 293 8 3,619
Demerara, 240 3,035
Santa Cruz, 15 189
Las Palmas, 16 190
N. Orleans, 68 18 800
Canary Is., 18 51 204
Yokohama, 49 8 593
Cartagena, 25 300

Arsenic—
Leghorn, 2 t. 11 c. £75

Asbestos—
Sekondi, 2 cs.
Valparaiso, 4 trcs.

Barium Sulphate—
Vera Cruz, 12 c. £3

Barytes—
St. Johns, 44 cks.

Basic Slag—
Oporto, 39 t. 10 c. £60
Sydney, 25 55
Mangalore, 30 85
Shanghai, 10 15

Bleaching Powder—
Barcelona, 16 cks.
Boston, 580 25 brls.
Ghent, 39
Hamburg, 100
N. Orleans, 185
New York, 117
Portland, 167
Bombay, 10 cs.
Bremen, 6
Madras, 15 dms.
New York, 112
Phila'phia, 321
Portland, 271
Shanghai, 336
Sydney, 27
Vera Cruz, 35

Boracic Acid—
Algoa Bay, 2 c. £3
Delagoa Bay, 5 6

Borax—
Victoria, 3 c. 1 kg. £5
Galatz, 1 t. 14
Matanzas, 4 19 75
Vancouver, 6 6
Bahia, 8 20
Manaos, 1 1
Bombay, 2 10 42
Maranham, 1 ck. 1

Calcium Chloride—
Bombay, 10 t. £20
Cape Town, 13 6 c. 27
Copenhagen, 19 3
Lyttelton, 5 7 27
Rangoon, 9 11 20
Bombay, 10 5 23
Sydney, 20 2 40
Melbourne, 5 2 10

Calcium Sulphocyanide—
Rio de Jan., 9 c. £22

Calcium Sulphydrate—
Antwerp, 20 t. 17 c. £27

Carbolic Acid—
Para, 2 cs. £7
Calcutta, 4 t. 11 c. 87
Rotterdam, 21 1,176
P. Arenas, 1 3

Carbolic Acid (Fluid)—
New York, 11 t. 13 c. £302

Carbolic Acid (Solid)—
Calcutta, 1 cs. £20
Yokohama, 5 t. 262
Boston, { 3 2 c. / 10 btls. } 153
Barcelona, 6 15
Kobe, 2 t. 10 121
New York, 2 17 155
Hamburg, 19 16 926

Carbonate of Lime—
New York, 1 t. 10 c. £19

Carbonic Acid Gas—
Kumasi, 5 cylds. £2

Castor Oil—
Amapala, 6 cs.
Brazil, 5

Caustic Potash—
Rio de Jan., 1 dm. £3
Sydney, 8 t. 19 c. 274
Manaos, 2 2

Caustic Soda—
Barcelona, { 20 cks. 100 / 12 brls. }
Braila, 451 dms.
Cienfuegos, 12
Galatz, 823
Havana, 40
Hong Kong, 20
Manaos, 12
Maranham, 10
Parahyba, 34
Rio de Jan., 55
Rotterdam, 11 96
Sourabaya, 4
Vigo, 9 20 3
Adelaide, 15
Amsterdam, 79
Beira, 20
Bilbao, 106
Brazil, 10 bxs.
Brisbane, 40 cs. 15
Calcutta, 25
Cartagena, 20
Catacola, 50
Catania, 117
Cheribon, 51
Christiania, 13
Durban, 43
Fremantle, 33
Genoa, 276
Halifax, 220
Havana, 40
Hiogo, 390
Karachi, 60

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Caustic Soda—
Leghorn, 175 dms.
Lisbon, 130
Madeira, 20
Madras, 20
Melbourne, 114
Messina, 12
Mexico, 389
Montreal, 70
Naples, 25
New York, 52
Nuevitas, 91
Oporto, 80
Padang, 50
Para, 13
Piræus, 80
Puerto Cabello, 40
St. Johns, 165
Samarang, 37
Sydney, 87
Tampico, 52
Tegal, 10
Tunis, 8
Valencia, 40 cks. 120
Valparaiso, 100
Venice, 35
Vera Cruz, 148
Yokohama, 250
Zanzibar, 6

Chemicals (*otherwise undescribed*)
Stockholm, 1 ck. £10
Melbourne, 29 42
Sekondi, 20 cs. 38
Provisa, 3 brls. 9
Genoa, 24 133
New York, 1 t. 3 c. 30
Vera Cruz, 60 cks. 94
Bombay, 20 111
Rotterdam, 31 322
Santos, 2 15
Rosario, 1 cs. 1
Madras, 352 141
Calcutta, { 20 16 brls. 512 / 90 t.
St. Johns, N'fld., 1 kg. 2
Stettin, 134 bgs. 128

China Clay—
Baltimore, 943 cks.
Boston, 637
B. Ayres, 20
Calcutta, 204
New York, 971
Portland, 1,301
Rio de Jan., 32 cs.
Santos, 19 pks.
Barcelona, 162
B. Ayres, 500 bgs.
Lisbon, 90
New York, 300
Valencia, 12
Oporto, 20 49
Pt. Elizabeth, 250

Chrome Acetate—
Santos, 9 c. £70

Coal Products—
Aniline Colours
Boston, 7 kgs.
Creosote
Galvèston, 60 brls.
Portland, 60 cks.
Creosote Oil
Seattle, 333 dms.
Creosote Salts
Portland, 2 cks.
Pitch
Galatz, 169 brls.
Tar
Cadiz, 635 t.
Cape Town, 20 dms.

Cobalt Oxide—
Gijon, 2 cs.

Colours—
Lisbon, 2 kgs.
Maranham, 20 cs.
Marseilles, 2 cks.
Montreal, 10 3
Calcutta, 87
Havana, 25
Hiogo, 9
Victoria, 24 pks.

Copperas—
Bombay, 15 t. £25

Copper Sulphate—
Piræus, 2 t. £45
Bombay, 3 69
Bourgas, 12 c. 13
Varna, 1 4 33
Christiania, 19 21
Tripoli, 1 4 28
Madras, 1 10 36
Calcutta, 6 139
Delhi, 1 21
Tegal, 14 23
Valparaiso, 10 14 220

Copper Sulphate—
Bordeaux, 34 t. 3 c. £1,731
Cheribon, 3 13 118
Marseilles, 7 11 164
Bordeaux, 29 17 660
Ghent, 2 7 37
Trinidad, 1 3 28
Penang, 1 3 26
Singapore, 1 3 26
Galatz, 1 28
Christiania, 2 48
Calabar, 1 1
Stettin, 8 6 182
Bordeaux, 3 2 61
Catania, 15 3 403
Barcelona, 30 899
Corunna, 19 22
Halifax, 2 10 55
Sourabaya, 27 15 693
Samarang, 29 14 647

Cottonseed Oil—
Algiers, 25 brls.
Dakar, 60
Durban, 60
Oran, 80
Rufisque, 30
Tangiers, 20
Malta, 20

Cream of Tartar—
Lisbon, 1 c. £4

Dextrine—
Vera Cruz, 6 cks.

Disinfectants—
Durban, 16 cs. £21
C. Coast, 6 40
New York, 5 cks. 10
Calcutta, 4 7
Rangoon, 75 dms. 20
Penang, 5 1
Lagos, 320 1 cs. 93
Forcados, 16 5 20
Addah, 5 7
Rangoon, 10 2 13
Bombay, 3 20
Dry Harbour, 1 5
Burutu, 8 6
B. Ayres, 10 8
Calcutta, 670 75
Algoa Bay, 1 2
Fiume, 4 pks. 5
Madras, 69 85

Dried Blood—
Teneriffe, 2 t. 10 c.
Orotava, 2

Dyestuffs—
Bark Extract
Philadelphia, 2 cs.
Dyewood Extract
Germany, 8 cks.
Tannin Extract
Amsterdam, 50 cks.
Copenhagen, 15 20 brls.

Farina—
Maranham, 10 bgs.

Ferro Manganese—
Baltimore, 100 t.

Ferro Sulphate—
Santos, 1 t. 2 c. £4
Talcahuano, 7 1

Ferro Vanadium—
New York, 6 cs.

Fertiliser—
Newport N., 735 t. 10 c. £2,598

Glue—
Canada, 34 bgs.
Callao, 1 ck.
Havre, 6 cs.
Montreal, 150
New York, 20 100
Kobe, 50
Shanghai, 20 tins

Glue Stock—
Baltimore, 235 bgs.

Glycerine—
Wellington, 6 c. £18
St. Johns, N'fld., 1 t. 45
Delagoa B., 112 13 4,500
Johannesburg, 5 14
S. Francisco, 14 16 610
Delagoa Bay, 5 15
Phila'phia, 51 11 1,624
Montreal, 2 11 120
Valparaiso, 12 47

Iron Oxide—
Phila'phia, 105 cks.
St. Nazaire, 1

Lead Acetate—
Sekondi, 3 c. £4
Selukive, 10 17

Lead Nitrate—
Montreal, 2 t. 12 c. £78

Linseed Oil—
Alexandretta, 202 brls.
Antofagasta, 100 dms.
Barbadoes, 5
Belize, 2
Havana, 18
Manaos, 2 cks. 40
Maranham, 5
Para, 22
Pernambuco, 5
Piræus, 6
Port Said, 3
Salonica, 40
S. Leone, 12
St. Domingo, 30
Bombay, 85
B. Ayres, 235
Ceara, 35
Coronel, 21
Genoa, 10
Havana, 16 14 150
Iquitos, 4 cs.
Palermo, 10 brls.
Patras, 18
Santiago de Cuba, 10 25 cs.
Victoria, 30
Warri, 28 dms.
Valparaiso, 450

Manganese (Calcined)—
Tampico, 1 cs. £2
Bahia, 8 c. 20
Vera Cruz, 1 4

Magnesite (Calcined)—
Sydney, 1 t. 1 c. £19
Samarang, 24 dms. 58

Magnesium Carbonate—
Havre, 2 t. 9 c. £44
Montreal, 13 pks. 39
Nanta, 4 7

Magnesium Chloride—
Lisbon, 1 t. 10 c. £5
B. Ayres, 2 1 8
Calcutta, 15 18 43
Rangoon, 1 4

Magnesium Oxide—
Bordeaux, 2 c. £6
San Juan, 1 cs.

Manganese Ore—
Hamburg, 11 t. 16 c.

Manure—
Newport N., 735 t. 10 c.
Santos, 67 bgs.
Lisbon, 500

Nitric Acid—
Talcahuano, 10 c. £24

Ochre—
Gijon, 6 cks.

Olive Oil—
Valparaiso, 5 dms.

Paraffin Wax—
Bari, 55 bgs.
Lisbon, 10 brls.
Maranham, 10 cs.
Palermo, 10
Pernambuco, 30 cks.
Valparaiso, 150 bgs.
Buenos Ayres, 10
Curacao, 15
Salonica, 16

Phosphate of Bone—
Santos, 5 t. £31

Phosphorus—
Kobe, 2 t. 4 c. £320

Phosphorus (Amorphous)—
Pernambuco, 9 c. £100
Rio de Jan., 14 150

Pitch (Wood)—
Philadelphia, 6 brls.

Potash—
Manaos, 4 c. £2

Potassium Bichromate—
Rio de Jan., 1 t. 3 c. £33
Oporto, 1 10 45
Bombay, 2 10 78

Potassium Carbonate—
Calcutta, 8 c. £12

Potassium Chlorate—
Yokohama, 3 t. 10 c. £105
Konigsberg, 14 415
Rotterdam, 1 9 44
Danzig, 10 242
Copenhagen, 2 57
Manilla, 5 150
Kobe, 25 750
Varna, 10 15
Rotterdam, 2 4 65
Tampico, 2 10 75
Hamburg, 2 60

Potassium Cyanide—
Tultenango, 30 t. £2,548

Red Lead—
Piræus, 20 brls.
Hong Kong, 40 kgs.
Havana, 10
Iquitos, 50 cks.
Manaos, 20
New York, 20

Red Ochre—
Calcutta, 40 cks.

Red Oxide—
Danzic, 100 bgs.
New York, 30 cks.

Rubber—
B. Ayres, 1 cs.
New York, 84 bgs.

Salammoniac—
Brisbane, 10 c. £14
Marseilles, 19 27
Tripoli, 10 19
Piræus, 10 20
Naples, 1 t. 9 56
Hong Kong, 2 5
Karachi, 2 5 83
Galatz, 1 6 51
Salonica, 1 1 42
Delagoa Bay, 2 4
Leghorn, 3 113
Varna, 7 14

Salt—
Antwerp, 510 t. 250 cs.
Baltimore, 240
Barbadoes, 86 13 c.
Batanga, 17 17
Belize, 47 15
Boston, 100
B. Ayres, 168 15
Burutu, 267
Calcutta, 2,185 650
Cameroons, 37 10
C. Town, 121 4
Casamance, 2,000 sks.
Conakry, 50
Demerara, 1,000
Gd. Lahou, 11 13
Hamburg, 55 16
Iquitos, 50 10
Kribi, 17 17
Maranham, 9 16
Monrovia, 2 5
Montreal, 200
N. Orleans, 195
Pernambuco, 50 cs.
Portland, 650
Porto Novo, 44
Rangoon, 35
Sekondi, 11 4
Sherbro, 25
S. Leone, 100
Sinoe, 29
Stockholm, 25
Amsterdam, 947
Cape Palmas, 12
Christiania, 10
Copenhagen, 160
Durban, 50
Gibraltar, 50
Havana, 50
Kingston, 200
Lagos, 270 2
Manaos, 40 8
Para, 67
Shanghai, 50
Trinidad, 53 12
Opobo, 60 6

Saltcake—
Bombay, 20 brls.
Lisbon, 720 bgs.

Saltpetre—
Santos, 2 t. 10 c. £65
Pernambuco, 2 18 78
Para, 3 80
Maranham, 1 19 54
Varna, 8 11
Cabadello, 50 cks.

Sheep Dip—
Delagoa Bay, 9 c. £20
Charlottetown, 2 cks. 8
B. Ayres, 4 t. 10 200
Natal, 1 4 45
Buenaventura, 2 18
M. Video, 10 21
Algoa Bay, 10 200
E. London, 5 100

Soap—
Acera, 325 bxs. 4 cs.
Addah, 150
Alexandria, 106
Alexandretta, 5
Assini, 151 13 bdls.
Axim, { 400 12 / 40 kgs.
Bakana, 204 cs.
Bangkok, 300

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Soap—
Barbadoes, 450 bxs.
Barcelona, 40 cs.
Batavia, 381
Bathurst, 20
Beira, 73
Bilbao, 20
Bolivia, 80
Bombay, 1,833 6 1 brls.
Brazil, 40
B. Ayres, 212
Burutu, 110 50 bdls.
Calabar, 100
Calcutta, 21,000
Callao, 30
Canaria, 1,008
Cape Coast, 306 13
Cape Town, 1
Cayenne, 100
Christiania, 150
Conakry, 100
Constanti'ple, 33 5 brls.
Curacao, 110
Delagoa B. 2,262 395
Deli, 320
Demerara, 2,008
Dunkirk, 1 630
Durban, 100 902
E. London, 49
Esmeraldas, 23
Famagusta, 32
Genoa, 6 56 pks.
Gibraltar, 8
Gd. Lahou, 100
H. Kong, 2,000
Iquitos, 88 bdls.
Karachi, 539 9
Kingston, 100 10
Kobe, 32
Kotonon, 60
Lagos, 550
Lisbon, 51
Madeira, 17
Madras, 135
Malta, 42 26
Manaos, 150 bdls.
Montreal, 7 cks. 41
New York, 50 bxs.
Opobo, 3,920
Para, 120 15 5 brls.
Penang, 1,651
P. Eliza'h. 1,088
P.Swet'h'm. 500
Rangoon, 130 51
Salonica, 57
Sandy Point, 20
Sapeli, 950
Sta Cruz de Teneriffe, 440
Sekondi, 200
Shanghai, 6,814
S. Leone, 250
Singapore, 525
Smyrna, 64
St. Johns, 362
Tampico, 2
Tangiers, 39
Tocopillo, 50 pks.
Trinidad, 210
Varna, 55
Yloilo, 39
Yokohama, 60

Soap Lyes—
New York, 7 dms.

Soap Powder—
Delagoa Bay, 5 skl-cs.

Soda Ash—
Manaos, 20 brls.
Adelaide, 19 cks.
Barcelona, 90
Bombay, 6
Boston, 35
Brazil, 150
Brisbane, 34
Cabedello, 25 bgs.
Calcutta, 40 2,760
Callao, 10
Christiania, 125
Delagoa Bay, 40 kgs
Galatz, 12
Genoa, 1,805 bgs.
Gothenburg, 50
Havana, 39
Hiogo, 1,167
Kingston, 40
Madras, 20
Melbourne, 124
M. Video, 100
Naples, 1,100
Oporto, 15
Patras, 15
Piræus, 120
Portland, 306
Rio de Jan., 140
St. Johns, 290

Soda Ash—
Salonica, 35 brls.
Samarang, 935 bgs.
Seville, 100
Shanghai, 1,470
Smyrna, 100
Sydney, 231 cks.
Sourabaya, 123
Venice, 365
Volo, 50

Soda Crystals—
Antofagasta, 50 brls.
Tangiers, 25
Adelaide, 16 cks.
Alicante, 10
Bombay, 80 kgs.
Gibraltar, 31 15 bgs.
Havana, 8
Malta, 100
Pt. Louis, 16

Sodium Bicarbonate—
Alicante, 190 kgs.
Barbadoes, 10 bgs. 61
Bilbao, 65
Brisbane, 120
Calcutta, 770
Catania, 140
Christiania, 20 dms.
Colombo, 25 kgs.
Constantinople, 20
Copenhagen, 5 cks.
Durban, 20
Galatz, 44 dms.
Gibraltar, 30 kgs.
Genoa, 19 brls.
Gibraltar, 30
Halifax, 45
Hiogo, 500 bgs. 500
Karachi, 500 1,051
Madeira, 4
Madras, 55
Melbourne, 140
Naples, 10 cks. 120
Piræus, 20
Rangoon, 295
Salonica, 35
Sourabaya, 7
Sydney, 40
Varna, 22

Sodium Carbonate—
Rotterdam, 25 bgs. 5 brls.

Sodium Cyanide—
Puerto Colombia, 2 c. £10
Mazatlan, 4 t. 15 354

Sodium Silicate—
Brisbane, 18 dms.
B. Ayres, 126 brls.
Calcutta, 39
Corunna, 10
Seattle, 200 cks.
Victoria, 7
Genoa, 252 bgs.
La Guayra, 15
Valencia, 91

Sodium Stannate—
Rio de Jan., 1 ck.

Starch—
Santos, 26 cks.
Barcelona, 50 bgs.
Maranham, 8

Sulphur—
Durban, 3 c. £6
Santos, 1 t. 4 8
Manilla, 5 2
Para, 15 5
Christiania, 50 250
Cape Town, 2 5 25
E. London, 2 5 25
Algoa Bay, 2 6

Sulphuric Acid—
Manaos, 1 cs. £1
Penang, 1 t. 4 c. 27
Algoa Bay, 19 10
Parnahyba, 1 1
Santos, 4 4

Sulphur (Precipitate)—
New York, 12 c. £17

Superphosphate—
Orotava, 6 t. £22
Manaos, 4 c. 2
Gijon, 99 294
B. Ayres, 49 156
Valencia, 297 757

Tallow—
Braila, 57 brls.
Sekondi, 4 cs.
St. Nazaire, 2 cks.
Alexandria, 61 trcs.
Christiania, 40
Gd. Bassam, 2
Piræus, 12

Tin Oxalate—
Rio de Jan., 4 c. £15

Turpentine—
Alexandretta, 5 brls.
Antwerp, 3
Lagos, 25 dms.

Venetian Red—
Galatz, 200 bgs.
Lisbon, 100 brls.
Newport News, 230
N. Orleans, 125

White Lead—
Vera Cruz, 60 kgs.
Coronell, 20
Pt. Elizabeth, 10
M. Video, 16 cks. 105 cs.

Zinc Chloride—
Lisbon, 16 c. £10
New York, 4 t. 4 52

Zinc Muriate—
Calcutta, 13 t. 7 c. £176

Zinc White—
Conakry, 10 cs.

MANCHESTER.

Period ending November 2c.

Alumina Sulphate—
Alexandria, 225 bgs.

Aluminous Sulphate—
Bushire, 15 brls.

Ammonium Carbonate—
Ghent, 6 cks.

Ammonium Muriate—
Bagdad, 20 brls
Germany, 7 cks

Asbestos—
Bombay, 2 coils.

Basic Slag—
Quebec, 500 bgs.

Bleaching Powder—
Philadelphia, 42 cks.

Bones—
Rouen, 334 bgs.

Calcium Sulphate—
Antwerp, 150 brls.

Caustic Potash—
Bombay, 4 dms.
Melbourne, 20

Caustic Soda—
Beyrout, 45 dms.

Chemicals (*otherwise undescribed*)
Bombay, 14 brls.
Bunder Abbas, 20
Bushire, 10 cs.
Quebec, 36 cks.

Coal Products—
Aniline Salt
Alexandria, 20 brls.
Hamburg, 8 8 pns.
Benzol
Treport, 32 brls.
Carbolic Acid
Rouen, 3 cs 63 btls.
Creosote Oil
Boston, 107 brls.
Naphtha
St. Nazaire, 30 dms.
Naphthylamine
Antwerp, 60 cks.
Hamburg, 29
Pitch
Antwerp, 150 t.
Brest, 1,428 17 c.
S. Nazaire 1,380
Spizzia, 700 10
Naples, 1,400
Tar
Philadelphia, 23 dms.
Tar Dye
Reval, 156 pns. 24 dms.
Tar Oil
Christiania, 10 brls.
Tar Salts
Hamburg, 311 bgs.
Toluol
S. Nazaire, 20 dms.

Colours—
Boston, 19 kgs.

Copper Sulphate—
Mersyne, 8 brls.

Dried Blood—
Rouen, 14 bgs.

Dyestuffs (*otherwise undescribed*)—
Rouen, 10 brls.

Dyestuffs—
Extract (*otherwise undescribed*)
Boston, 25 brls.
Sumac
Christiania, 25 cks.

Glue—
Antwerp, 6 cks.
Ghent, 3
Rouen, 80 bgs.
Rotterdam, 38

Glycerine—
Christiania, 6 dms.
Germany, 60

Iron Oxide—
Malta, 6 cks.

Linseed Oil—
Bagdad, 15 dms.
Beyrout, 28 brls.

Manganese—
Germany, 8 cks.

Mineral White—
Antwerp, 42 cks.

Nitrous Oxide Gas—
Copenhagen, 3 cs.

Oleine—
Dunkirk, 40 brls.

Oxalic Acid—
Bushire, 6 cs.

Potassium Bichromate—
Odense, 4
Beyrout, 7 cks.

Potassium Prussiate—
Boston, 5 cks.

Rubber—
Hamburg, 1 ck.

Salammoniac—
Bagdad, 5 brls.
Famagusta, 2
Tripoli, 2 cks.

Salt—
Rotterdam, 550 t.
Stockholm, 147

Soap—
Alexandria, 59 cs.
Beyrout, 7
Larnaca, 6

Soda Crystals—
Jaffa, 14 brls.

Sodium Bicarbonate—
Bagdad, 14 cks.
Mersyne, 20 kgs.

Sodium Bichromate—
Treport, 28 cks.

Sodium Prussiate—
Boston, 5 cks.

Sodium Sulphate—
Bombay, 110 bgs.

Starch—
Bombay, 10 bgs.
Rotterdam, 10

Tallow—
Bombay, 28 cks.
Rotterdam, 1

Zinc Ashes—
Germany, 223 t. 3 c.

Zinc Oxide—
Bombay, 3 cks.

HULL.

Week ending November 16.

Ammonium Sulphate—
Dunkirk, 110 bgs.
Rotterdam, 500

Chemicals (*otherwise undescribed*)
Abo, 15 cks.
Amsterdam, 28
Antwerp, 2 hds.
Bremen, 30
Bombay, 5 bgs. 251 20 kgs. 7 cs. 60 dms.
Christiania, 47 922 slabs.
Con'nople, 121
Drontheim, 50
Gothenburg, 13 1,593 pks.
Hamburg, 26 5
Helsingfors, 15
Karachi, 380 200 dms.
Odessa, 1 2 tins. 390 85 kgs. 285 bgs.
Rotterdam, 34
S.Petersburg, 8 203 cs.
Stettin, 10 17 dms.
Riga, 19 52 10

Coal Products—
Pitch
Antwerp, 635 t.
Dunkirk, 100
Christiania, 2 cks.
Tar
Antwerp, 5 cks.
Rotterdam, 10

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Cottonseed Oil—
Amsterdam, 26 t. 7 c.
Antwerp, 25 1
Con'nople, 35
Dunkirk, 74
Drontheim, 2 17
Gothenburg, 6 1
Hamburg, 25 5
Rotterdam, 16 5
Stettin, 4 18

Dyestuffs (*otherwise undescribed*)—
Antwerp, 1 kg.

Glue—
Bombay, 1 cs.
Gothenburg, 20 bgs.

Linseed Oil—
Amsterdam, 18 c.
Alexandria, 2 t. 13
Bombay, 15 16
Christiania, 8 13
Con'nople, 4
Christiansund, 1 1
Hamburg, 3
Harlingen, 3
Karachi, 3 16

Manure—
Riga, 4,560 bgs.

Molasses—
Bergen, 175 brls.
Christiania, 10 cks.

Phosphate—
Christiansund, 5 t.
Nantes, 1,000

Soap—
Bombay, { 20 kgs. / 32 brls.
Alexandria, 5 30 dms.
Constantinople, 30
Karachi, 10
Gothenburg, 51 cs.

Starch—
Alexandria, 20 cs.
Constantinople, 500
Drontheim, 40
Odessa, 200
Christiansund, 10

Tallow—
Bombay, 25 cks.

Turpentine—
Alexandria, 40 dms.
Antwerp, 7 cks.
Bombay, 96
Con'nople, 64
Gothenburg, 5
Hamburg, 44
Karachi, 10
Rotterdam, 81

Wax—
Constantinople, 20 bgs.
Odessa, 80

GLASGOW.

Period ending November 21.

Acetic Acid—
Valparaiso, £25

Alumina Sulphocyanide—
Rio de Jan., 14 c. 1 q.

Ammonium Carbonate—
Bergen, 5 c. 2 q.
Christiania, 10 3 24 lb.
Drontheim, 1 t.

Ammonium Phosphate—
U.S.A., 2 t.

Ammonium Sulphate—
Hamburg, 50 t. 11 c. 2 q.
Japan, 258 11 3
Yokohama, 51 5 2

Borax—
Rotterdam, 10 t. 11 c.

Carbon Bisulphide—
Sydney, 6 t. 13 c. 3 q.

Caustic Potash—
Melbourne, 1 t.

Caustic Soda—
Iloilo, 3 t. 12 c. 3 q.

Chemicals (*otherwise undescribed*)
Austria, £92
Sydney, 25
Montreal, 73
Toronto, 17
Rio de Jan., 58
Vancouver, 38
Belgium, 160
Canada, 22
Toronto, 164
U.S.A., 36

Coal Products—
Alizarine Oil
Rio de Jan., £49

Coal Products—
Creosote Oil
Bergen, 16 t. 2 c.
Helsingfors, 262 2
Hamburg, 12 13 2q. 21lb
Naphtha
Australia, £85
Napnthaline
Brisbane, 6 c.
Pitch
Canada, A., €230
Cette, 3,302
Montreal, 25
Bordeaux, 1,200 t.
Penang, a qnty.
Dieppe, 850
L. Orient, 6
Tar
Calcutta, £100
Penang, a qnty.
Singapore, 50
Straits, 60
Drontheim, 5 c.
Tar Oil
Bergen, 5 t. 19 c. 3 q.

Dyestuffs (*otherwise undescribed*)—
Australia, £133
Ballarat, 72
Canada, 275
Calcutta, 143
Sweden, 147

Farina—
Rio de Jan., £63

Ferro Aluminium—
Brisbane, 15 c.

Ferro Silicon—
Helsingfors, 10 t.

Fish Oil—
Belgium, £1,202
Calcutta, 120
Bordeaux, 107
Hamburg, 12 c. 2 q.
Rotterdam, 10 t. 11

Gelatine—
U.S.A., £391
Canada, 145
Valparaiso, 25

Glue—
Natal, £94

Glycerine—
Canada, £385

Guano—
Hamburg, 50 t. 9 c. 1 q.

Iodine—
Rotterdam, 8 c.

Linseed Oil—
Antwerp, 16 c.
Brisbane, 7 t. 2 q.
Melbourne, 4 19 1
Rockhampton, 10
Sydney, 16 18
Townsville, 39 14 2
Trieste, 2 1 3
Talcahuano, 2
H. Kong, 2 2 3
Havana, 2 12 2
Rio de Jan., 3 10 3

Litharge—
Amsterdam, 10 c.
Beira, £80

Magnesium Sulphate—
Rio de Jan., 18 t. 9 c.

Oxalic Acid—
Singapore, £56

Paraffin Wax—
Hamburg, 1 t. 1 c. 1 q.
Rotterdam, 11
Christiania, 12 13 2 2 lb.
Rio de Jan., 17 3
Santos, 3 12
Galatz, 1 9 3
Talcahuano, 4 18 2
U.S.A., 5

Phosphoric Acid—
Canada, £49

Potassium Bichromate—
Antwerp, 1 t. 19 c. 3 q.
Bergen, 1 5
Japan, 6 16 2
Quebec, 18 3
Sydney, 1 19 2
Rio de Jan., 14 2
Sweden, 4 1 2
Rotterdam, 2 16

Potassium Cyanide—
Sydney, £700
Japan, 196
Melbourne, 2,040
Fremantle, 4,595
Geraldton, 555

Potassium Cyanide—
Singapore, £72
Beira, 322
Delagoa Bay, 248

Potassium Prussiate—
Rio de Jan., 46 t. 12 c.

Red Lead—
Sydney, 1 t.
Stockholm, 2 1 c.
Newcastle, N.S.W., 2
Sydney, N.S.W. 13 11
Calcutta, 4 10
Santos, 5 4 2 q.
Vancouver, 1
Rotterdam, 1 12

Rosin Oil—
Stockholm, 16 t. 10 c.

Salt—
U.S.A., 8 t. 19 c. 3 q.

Saltcake—
Stockholm, 250 t. 6 c.

Soap—
Melbourne, £32
China, 2 t. 2 c. 1 q.
P.Swet'ham, 2 18 1
Singapore, 2 5

Soap Lye—
U.S.A., 10 t.

Sodium Bichromate—
Antwerp, 19 c. 1 q.
Rotterdam, 25 t. 16
Toronto, 6 6 1

Sodium Carbonate—
Delagoa Bay, 5 t. 7 c.

Sodium Cyanide—
Melbourne, £192
Sydney, 227
Fremantle, 1,547
Beira, 170
Delagoa Bay, 2,348
Marfil, 1,274
Natal, 123
U.S.A., 1,306
Chihuahua, 1,274

Starch—
Rio de Jan., 8 t. 17 c. £98
Vancouver, 8 15 2 q.

Sulphocyanide of Lime—
Rio de Jan., 13 c.

Tallow—
Belgium, 5 t. 10 c. 3 q.
Rotterdam, 6

Tannic Acid—
Rio de Jan., £65

Tartaric Acid—
Canada, 6 c. 2 q.

Tin Crystals—
Rio de Jan., 4 c. 3 q.

White Lead—
Brisbane, 3 t.
Sydney, 1
Townsville, 5 17 c. 3 q.
Adelaide, 3 17
Sydney, 27 3
Delagoa Bay, 17 1
Natal, 2 15
Victoria, 2 2 1
Beira, 1 1 1
Durban, 5

Zinc Oxide—
Sydney, £65

Zinc White—
Sydney, 1 t.

TYNE.

Week ending November 16.

Ammonium Carbonate—
Bander, 11 c.

Antimony (Regulus)—
Hamburg, 10 t.
Copenhagen, 6 c.
Rotterdam, 16 18
Antwerp, 1 10

Barium Binoxide—
Hamburg, 170 t. 17 c. 18 lb.
Venice, 9 6 1 q. 1
Ghent, 1 2 26

Barium Carbonate—
Hamburg, 180 t. 14 c.

Bleaching Powder—
Amsterdam, 10 t. 15 c. 3 q. 26 lb.
C'hagen, 30 2 2 12
Rotterdam, 5 1 1 20

Boiler Disincrustant—
Antwerp, 10 c.

Caustic Soda—
Antwerp, 2 t. 6 c. 1 q. 20 lb.

Chemicals (*otherwise undescribed*)
C'hagen, 13 t. 4 c. 2 q. 11 lb.

Coal Products—
Pitch
Antwerp, 100 t. 18 c.

Infusorial Earth—
Antwerp, 2 t. 10 c.

Linseed Oil—
Hamburg, 13 c. 3 q.
Pozzuoli, 4 t. 3 21 lb.

Litharge—
C'hagen, 11 c. 1 q. 24 lb.
Hamburg, 7 t. 8 26

Manure—
Valencia, 373 t.
Gandia, 100

Phosphorus—
Bari, 19 c. 2 q.

Red Lead—
Hamburg, 47 t. 2 c. 3 q.
Ancona, 10 2 14 lb.
Copenhagen, 8 3 3 24
Ghent, 5 2 7

Soap—
Bergen, 1 t. 4 c. 12 lb.

Soda—
Bergen, 10 t.

Soda Crystals—
Amsterdam, 10 t. 1 q. 15 lb.

Sodium Sulphide—
Ancona, 1 t. 2 c. 3 q. 17 lb.
Bari, 5 1 24

Turpentine—
Antwerp, 1 q. £14

White Lead—
Copenhagen, 19 c. 27 lb.
Rotterdam, 3 t. 5 3 q. 20
Hamburg, 15 3 3 20
Ghent, 5 1 5

Zinc White—
Hamburg, 7 c. 16 lb.

GOOLE.

Week ending November 16.

Ammonium Carbonate—
Copenhagen, 5 cks.
Hamburg, 35

Ammonium Sulphate—
Dunkirk, { 154 bgs. / 15 t.

Chemicals (*otherwise undescribed*)
Amsterdam, 15 cks.
Copenhagen, 20 1 cs.
Hamburg, 55
Rotterdam, 33 24 15 dms.

Coal Products (*otherwise undes.*)—
Boulogne, 244 cks. 35 dms.
Delfzyl, 349
Hamburg, 105
Amsterdam, 74 17

Coal Products—
Pitch
Antwerp, 590 t.

Colours—
Boulogne, 4 cks. 6 pks.
Hamburg, 2
Rotterdam, 1

Dyestuffs (*otherwise undescribed*)—
Rotterdam, 8 cks. 4 cs.

Manure—
Dunkirk, 233 bgs.

GRIMSBY.

Week ending November 13.

Basic Slag—
Esbjerg, 2,030 bgs.

Chemicals (*otherwise undescribed*)
Hamburg, 10 cks.

Coal Products (*otherwise undes.*)—
Malmo, 30 brls.

Colours—
Malmo, 10 brls
Hamburg, 7

Manure—
Hamburg, 134 bgs.

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PRICES CURRENT.

FRIDAY, November 29, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
* Acetic, 25% and 40%	per cwt.	9/-	&	13/-
* ,, Glacial	,,		40/-	
Arsenic S.G. 2,000°	,,		31/-	
* Fluoric	per lb.	0	0	4¾
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/1	
* ,, (Cylinder), 30° Tw.	,,	0	2	9
* Nitric 80° Tw.	per ton	14	15	0
* Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10⅝
Picric	,,	0	0	11
* Sulphuric (fuming 70%)	per ton	6	0	0
* ,, (Pyrites, 168°)	,,	3	2	6
* ,, (,, 150°)	,,		30/-	
* ,, (free from arsenic, 145°)	,,		36/-	
* Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10¾
*Acetone	per ton	81	0	0
Arsenic, white powdered	nett ,,	26	10	0
*Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric (in slabs)	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	106	0	0
*Ammonia, Anhydrous	per lb.	0	1	1
* ,, .880	per ton	24	0	0
* ,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	2⅝
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	17	6
,, ,, ,, Hull	,,	12	0	0
,, ,, ,, Manchester	,,	11	17	6
*Aniline Oil (pure)	per lb.	0	0	5¾
Aniline Salt ,,	,,	0	0	4¾
Antimony	per ton	36	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9¼
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native). 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
*Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
* ,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¾
,, 50/90	,,	0	0	8½
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅛
,, (liquid 95/97%)	per gallon	0	1	3
* Creosote (ordinary), naked	,,	0	0	2¾
* ,, (filtered for Lucigen light)	,,	0	0	3¼
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0
* Pitch, f.o.b. Liverpool or Garston	,,	1	2	6
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	63	0	0
,, Sulphate	,,	23	0	0
,, Oxide (copper scales)	,,	55	0	0
*Glycerine (crude), 80%	,,	37	10	0
* ,, (distilled S.G. 1260°)	,,	61	10	0
Iodine	nett per oz.	0	0	6
*Iron Sulphate (copperas)	per ton	1	10	0
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	18	10	0
,, Litharge Flake (ex ship)	,,	19	10	0
,, Acetate (white) ,,	,,	30	0	0
,, ,, (brown) ,,	,,	25	10	0
,, Carbonate (white lead), pure	,,	22	10	0
,, Nitrate	,,	32	10	0
Lime, Acetate (brown) (ex ship)	per ton	8	5	0
,, ,, (grey) 80%	,,	11	15	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0 *
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5 *
Naphtha (Wood), Solvent	,,	0	2	4 *
,, ,, Miscible, 60° O.P.	,,	0	1	10 *
Oils :—				
Cottonseed	per ton	23	0	0
Linseed	,,	23	5	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3¼
,, Cyanide, 98%	,,	0	0	8¾
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0 *
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	2 13/16
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0
,, ,, (Soda Crystals) (bags)	,, ,,	2	17	0
,, Acetate (ex ship)	,, ,,	17	5	0
,, Arseniate, 45%	,, ,,	23	10	0
,, Borate (Borax), Crystals	,, ,,	16	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7⅜
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	15	0
,, ,, (70% C. Soda) ,, ,,	,, ,,	10	5	0
,, ,, (60% C. Soda) ,, ,,	,, ,,	9	5	0
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	15	0
,, 77/78% powdered (99% hydrate)	per ton	12	10	0
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0 *
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	1½
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3⅝
,, Silicate (glass)	per ton	5	5	0
,, ,, (liquid, 100° Tw.)	,,	3	17	6
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6 *
,, ,, (Glauber's Salts)	,,	1	15	0 *
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6 *
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	33	10	0
Tin Crystals	per lb.	0	0	9¾
,, English Ingots	per ton	140	10	0
Zinc (Spelter)	,,	21	5	0
,, Chloride (solution, 100° Tw.)	,,	6	5	0 *
,, Sulphate, Crystal	,,	7	0	0

**Packages extra, or returnable:* Otherwise, prices usually include packages.

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THE

CHEMICAL TRADE JOURNAL

AND

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LATE ADVERTISEMENTS.

SALE BY AUCTION.

BY ORDER OF THE RECEIVER.

SWANSEA CHEMICAL WORKS, LLANSAMLET.

MR. W. J. REES will offer for Sale by Auction, at the Hotel Metropole, Swansea, on Tuesday, 17th December, 1907, the above Important Industrial Undertaking, together with the Buildings, Fixed Plant and Machinery, comprising: Two Glover Towers, Nitric Tower, Gay Lussac Tower, Two Large Chambers, Zinc Blende Crushing Plant and Furnace, Pyrites Smalls Furnace, Seven Railway Acid Tank Wagons, etc. The Works are provided with convenient railway sidings. The area comprised in the taking is about 10 Acres, and held for a term of 99 years from 29th September, 1811, at a ground rent of £105 per annum.

Particulars, with Plan and conditions of Sale, will be obtainable of F. H. Edwards, Esq., Solicitor, 20, Fisher-street, Swansea, S. H. Buckland, Esq., Receiver and Liquidator, Goat-street, Swansea, and of the Auctioneer, The Laurels, Swansea.

CHEMICAL Works Book-keeper, thoroughly capable, reliable, shortly at liberty, could improve business; Manchester district.—Address, "1,027," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

A FIRM in China wishes to have an Estimate for a Cement Plant for a yearly production of 100,000 tons and 200,000 tons of cement. Rotary kilns system. Raw material used, hard limestone and soft clay. Estimates must include every detail with the exception of the cost of raw materials (clay and lime). Fuel and wages to be calculated on the English standard. Offers to be sent to Dr. Livio Silva, Mining Institute and Analytical Laboratory, 80, Broadway, Shanghai.

MICROSCOPE Wanted.—Full particulars and lowest price to "1,628," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

DRONSFIELD, near Sheffield.—*Re* The Sheffield Animal Bye-Products Co., Ltd. These up-to-date Freehold Works, lately occupied by the above company and the Dronsfield Bone Works Co., Ltd., for Sale (only recently stopped working), or Lease, with Plant, Loose Tools, etc.—Particulars from J. W. Naylor, Incorporated Accountant, 4, York-street, Sheffield, Liquidator.

Advertisements.

Prepaid Advertisements of Situations Vacant, Premises on Sale or To Be Let, Miscellaneous Wants, and Specific Articles for Sale by Private Contract are inserted in the *Chemical Trade Journal* at the following rates:—

30 Words and under ..... 2s. 6d. per insertion.
Each additional 6 words ..... 0s. 6d. ,,

Advertisements of Situations Wanted are inserted at the following rates when cash is sent with order:—

24 Words and under ..... 1s. 0d. per insertion.
Each additional 6 words ..... 0s. 3d. ,,

Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

CANALS AND WATERWAYS.

A VERY interesting contribution to the discussion of the problem of inland water transport was made by Sir John Turney at a meeting of the Nottingham Section of the Society of Chemical Industry on Wednesday week, in the form of a paper on "Canals and Waterways." The subject was introduced by an account of the conflicting interests that stood in the way of traders from the twelfth century onwards. "The land owners in their feudal pride took toll of the traders who were driven by rapids or shallows to use the towing-path." These pretensions were stoutly resisted, especially by the Mayor and Commonalty of Nottingham, so that in the fourteenth century a Royal Proclamation forbade any further levying of fines by landowners on navigation of the Trent. The principle was finally asserted of holding the great rivers of the Kingdom common and open for the passage of boats and ships.

Sir John maintains that as these waterways, like the turnpike roads, have been cleared of the cumbrous toll system, so should the connecting links—the canals—be taken over and set in order by the State. The example of the Continent should be imitated, and an end put to the present state of things. "The Great Western Railway Company holds the key of the east and west traffic by its possession of the Avon Navigation and Kennet and Avon Canals. The L. and N.-W. Railway own nearly all the canals running north from Birmingham, and the Shropshire Union Canal. The N. Staffs. Railway owns the Trent and Mersey Canal. Altogether, railways possess 1,139 miles out of the 3,907 miles of canals in England. . . . The evil is not so much in the waste of these railway-owned waterways, as in the paralysis of the other 2,768 miles which they divide and isolate."

Showing what could be done if the old conditions were restored, the author stated that transport of heavy traffic could be effected on canals for less than one sixth of a penny per ton per mile—a figure that railways cannot touch for cheap transit. "The success of the Weaver, Aire and Calder, and Severn Navigations in England, and of the great inland waterways in France, Germany, and Belgium, shows that the English Trent and its canal connections might, if properly improved, bring the manufacturers of Birmingham and the Potteries, and the coal of South Derbyshire, to the port of Nottingham, with its docks full of sea-going ships."

From evidence given before the Royal Commission on Canals and Waterways, the falling-off of traffic in the canals connecting with the river at Nottingham is seen. In the middle of the last century 40 or 50 barges of coal hourly entered the Trent at Nottingham, or crossed it for Grantham. At Nottingham the Corporation own six miles

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of river frontage, and wharves on two canals. By the improvement of the Trent the Corporation would be encouraged to use it for fetching raw material for their various municipal enterprises, and for sending off residuals, ammoniacal liquor, pitch, coke, etc.

The firm with which Sir John Turney is connected receive much of their tanning materials by river, and send their pickled skins and leather to Boston and other parts of the United States by the same route. But delays are frequent in summer owing to shoals, locks being badly needed above Newark.

Sir John declares that if any thorough scheme were adopted for the reform of English waterways, Nottingham would be bound to benefit largely, and would be ready to co-operate with the State in making the city an inland port. The Nottingham Chamber of Commerce and Merchants and Traders' Association strongly favour such action, while the Parliamentary Committee of the Corporation is prepared to recommend the support of the city to any reconstruction scheme which is based on a satisfactory system of contribution.

Illustrating what can be accomplished with canals even under great natural difficulties, the case of Dortmund, a town in Westphalia, was instanced. Situated more than 100 miles from a German harbour, and not on a river, it has been virtually made a port by the construction of a canal connecting it with the River Ems. Owing to the scarcity of water, much has to be pumped, and the employment of lifts is necessary; but in spite of these drawbacks the canal will take 800-ton barges, and in eight or nine years the water-borne trade at Dortmund has grown from 200 to 1,700,000 tons. At much less expense Nottingham could be made another Dortmund. "The Nottingham Corporation is now fully alive to the importance of encouraging new and stimulating old industries."

Sir John Turney urges the Government to emulate those of other countries. Between 1880 and 1893 Germany spent nearly £18,000,000. for the improvement of old and construction of new waterways, whose length in 1895 was 6,214 miles. The State owns 88% of Belgian waterways. France, whose Languedoc Canal of 100 locks and 50 aqueducts, joining the Bay of Biscay to the Mediterranean, was made as early as the seventeenth century, is just as progressive in its modern undertakings. Of 7,459 miles of waterways, all except 158 belong to the State. Sir John's action is evidently prompted by patriotism and a desire not to see this country lag behind in the race for commercial supremacy, for he finishes with the words of M. Freycinet, that "navigable waterways and railways are not destined to supplant, but to support, each other."

"GASSING" ACCIDENTS AND HEROISM.

On Thursday week, at the Bradford Road Gasworks of the Manchester Corporation, an interesting ceremony took place, in which William Surry and John Henry Bell, two of the workmen employed at the gasworks, were decorated with medals presented by the Royal Humane Society, for saving life. On July 23 last, Bell and another workman named Prior proceeded in the course of their duty to examine the syphon pipes in connection with the mains in various parts of the gasworks. One of these pipes is in a well about four feet deep; at the bottom of the well is a plug, which the men unscrew just sufficiently to see that the pipe is clear of obstruction. Prior got into the well and took out the plug; finding that the pipe was blocked, he proceeded to remove the solid matter, omitting, however, to take certain customary precautionary measures to protect himself from the outrush of gas after the obstruction had been removed. Consequently, before he had replaced the plug, he was overcome by the gas. Bell, seeing Prior fall, went into the hole to the assistance of his comrade, but was himself overpowered by the fumes. The other man, Surry, jumped into the pit, plugged the hole, and then fell unconscious. Surry and Bell recovered, but Prior succumbed.

In presenting the Royal Humane Society medals and certificates to the two men, the Lord Mayor of Manchester spoke in high terms of their bravery. It was acts such as these, he said, that had given the British race its reputation for courage, and he was glad to think that whenever the necessity arose, these qualities would not be found wanting. Mr. Alderman Gibson, Chairman of the Manchester Gas Committee, said that if it was right to bestow honours on men who had done noble deeds on the field of battle, as doubtless it was, it was not less seemly that men should honour those who did brave acts in the course of their daily work. These men, knowing the risk they ran, deliberately placed their lives in jeopardy to save a fellow-worker from death. The Gas Committee recognised this fine conduct, and then brought it under the notice of the Royal Humane Society, who had sent down their medals and certificates.

We join with the Lord Mayor of Manchester and Alderman Gibson in their admiration of the plucky behaviour of the two men at the Bradford Road Gasworks. Bravery in critical situations—situations which are almost an every-day occurrence in every large industry—has of late been recognised to a larger extent than was formerly the case, as witness the establishment of the Industrial Order of Courage by His Majesty the King in July last. But we must once more emphasise the fact—so frequently pointed out in these columns—that if proper precautions had been taken, the fatal accident at the Manchester Gasworks would not have happened. Whenever such dangerous work has to be undertaken as the clearing of pipes containing noxious gases under pressure, it is absolutely necessary that the men who are detailed for the work should be provided with apparatus that will render them immune from "gassing." The ordinary respirator is of little use under such conditions as those mentioned above; but if a helmet, fitted with the necessary air tubes, had been worn by the man who first entered the well, the work which he was set to do would have been accomplished with perfect safety.

In chemical works the circumstances of the Manchester fatality may be reproduced at almost any time, and we would again emphasise the need for the adoption of adequate measures for the prevention of "gassing," and the provision of the proper appliances, the use of which should be rigidly enforced. These precautions and appliances are now so well known, through repeated description in this journal and by the recommendations of the Inspectors of Factories, that ignorance can hardly be pleaded as an excuse; and when the details of such occurrences—involving the loss of human life—come before us, we are impelled once more to re-echo the question so often asked by the late Dr. Angus Smith:—"How many accidents make a crime?"

CHINESE TRADE IN 1906.

In his report on the trade of China during 1906, Sir Alexander Hosie, Acting Commercial Attaché to H. M. Legation at Pekin, states that the commercial strain

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of 1905 continued during the past year, and was, furthermore, accentuated by other factors beyond the reach of human foresight or precaution. Imports decreased owing to over-importation in anticipation of a demand that was not realised, and much in consequence remains to be done before healthy trade recommences in Manchuria. Since the Chino-Japanese war of 1894, the peasantry desire to be assured of a lasting peace before investing their money. The establishment of Chinese custom houses on the frontiers of Manchuria, with equal treatment to all and fixed mileage railway rates for goods irrespective of origin—in other words, "the open door,"—should do much to place trade on an equitable basis.

There was, during 1906, a gold increase of £2,727,902. in the gross trade of the United Kingdom with China, as compared to the previous year; the silver values, however, presented quite a different aspect, the silver decline amounting to as much as £1,272,896., while the decrease in exports from China to the United Kingdom, amounting in value to £528,486. in gold, was in silver £851,559. According to the customs returns, there was a net import of gold into China to the value of £632,021., and a net export of silver to the value of £3,044,066. It has been calculated that, during 1906, the commercial area of China lost to the outside world a sum of 1,325,059 taels on the two metals, the silver loss being 3,960,355 taels, as against a silver gain of 10,758,238 taels in 1905. As regards gold, the business of converting imported British sovereigns into gold leaf and exporting them in their new shape, which was at one time considerable, has of late years not been so brisk, as the Japanese gold yen has been found more tractable than the British sovereign.

A summary of those portions of the report relating to chemicals and drysalteries appeared in the *Journal* last week. A special abstract of other sections will be found elsewhere in this issue.

NITRATE OF SODA.

The prevalence of heavy surf on the West Coast last month interfered, as we expected, with shipments, which are reported to have reached only 179,836 tons to Europe, out of 234,000 tons loading on November 1; the margin, even between the former figure and last Saturday's official estimate of 210,000 tons, is a wide one, and the *Magellan* (8,000 tons) and *Cedarbank* (2,800 tons)—cleared from Iquique and Tocopilla respectively on that day—may have been omitted. In any case, the quantity "loading" on December 1 was 208,300 tons, compared with 108,400 tons at the corresponding date last year, and with the numerous steamers chartered the present month's exports should, in the absence of labour troubles, reach a formidable total. The November deliveries having been 36,650 tons (33,000 according to a leading trade circular) the "visible supply" for Europe on December 1 comes out at 627,000 tons, of which 430,140 tons afloat and 197,850 tons at ports, against 652,550, 507,350, and 145,200 tons respectively a year ago. While stocks at Hamburg were 48,000 tons, they reached 57,000 tons in Dunkirk, and 53,000 tons at minor Continental ports, those in the United Kingdom being 18,000 tons, of which no less than 9,000 tons were in Liverpool. Although the statistical position is—apart from prospective heavy shipments—relatively favourable, the improvement noticed in our last issue has been lost, and the nitrate market is again weak. Notwithstanding the re-opening of navigation on the Elbe, and the receipt of only one cargo at Hamburg during the past fortnight, holders there are anxious sellers of spot at 10s. 7½d. per cwt., while prompt shipment has gone back to 8s. 3d. per quintal, f.o.b. Chili. The financial crisis there is still at its height, the latest quotation of the eighteenpenny paper dollar being 8⅝d.

L'Engrais, of Lille, recently much depressed by the weakness of the nitrate market, is evidently correspondingly elated at last week's recovery—alas! already vanished. Our excellent French contemporary, while acknowledging the unfavourable factors stated in our issue of November 16, accordingly once more twits us with what it chooses to term our persistent pessimism and the inaccuracy of our prognostications (*sic*); it likewise darkly hints at interested motives. The unexpected generally happens in nitrate matters, and we have too much respect for the ability of the market manipulators to indulge in forecasts; we merely submit data not generally accessible, leaving our readers to draw their own conclusions. It is perfectly immaterial to us whether nitrate of soda fetches £12. per ton or £9., and our only wish is that neither the chemical trade nor the agriculturist should be imposed upon. Importers, for whom *L'Engrais* is so solicitous, may have paid high prices, but there is at present no proportion between the cost of production and market quotations.

PERUVIAN RUBBER.

AN expedition from the Argentine Republic, under the leadership of an American engineer, has passed through Iquitos, bound by way of the Ucayali River for the Purus, with the idea of making preliminary surveys to decide whether or not it is practicable to construct a railroad, some 75 miles in length, from the rich rubber districts of the Purus to a point on the Ucayali River, to which the regular river launches may ascend even at low river. The object is to divert the immense rubber traffic of that district towards Iquitos. Under present conditions, because of the lack of overland transportation facilities, the rubber must be transported down the Madeira River to Manaos, thus giving Brazil the benefit of export duties on a strictly Peruvian product.

The United States Consul at Iquitos states that the project is backed by a company of British capitalists, with headquarters in Buenos Ayres, and it is expected that the preliminary surveys will require the greater part of a year. If the plan proves feasible, it is said that the company will receive one of the most liberal concessions yet granted by the Peruvian Government. This also seems probable, for the Peruvian Government is said to be lacking in funds sufficient for the proper development of her vast resources of rubber forest across the Andes from Lima, and it is upon the development of these resources that she must depend in a large measure for her future prosperity. This project, if carried out, should do more towards increasing the rubber exports from Iquitos and stimulating trade in general than any one project yet completed or contemplated in the Department of Loreto.

FERTILISERS IN JAPAN.—According to the latest statistics there are twelve fertiliser factories in Japan, in eleven of which steam-driven machinery is used.

POTASH SALTS.—At the general meeting of the German Potash Syndicate, held last week in Magdeburg, the new Günthersthol, Thüringen, and Heldrungen Mines were formally admitted as members, and a provisional arrangement with the Krugershall Company was approved. The proposed increase of the number of the directorate from 8 to 12 was rejected. The outlook for the industry was reported to be favourable, the expansion in the value of deliveries in the ten months to end of October being estimated at 4½ million marks, or £225,000.

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THE ROYAL SOCIETY.

THE PROGRESS OF SCIENCE.

At the anniversary banquet of the Royal Society, held in the Whitehall Rooms at the Hotel Metropole on Saturday last, Lord Dunedin, in proposing the toast of "The Royal Society," asked where was science a hundred years ago? No doubt previously great men of science had lived. Archimedes and Newton and others had done something, and had even taken steps which afterwards it had not been found necessary to retract. But as regards the position of science as something that entered into the every-day business of life, where were they in 1808? Watt had just finished his long struggle with the practical application of the steam engine. Electricity as an agent of every-day life did not exist; and there were still years to come before chemistry should stretch out its hand to the astronomer, and by means of photography and the spectrum analysis open out new realms for him to conquer. And now after the mighty changes of this century, after all the discoveries which were before our minds, it seemed that we were only on the threshold of discovery. Indeed, the one impossibility of to-day seemed to be to fix what was truly impossible. It seemed likely that the primordial elements, whether in form or substance, were yet to discover, and that the old dream of the alchemist, long ago rejected by science, the fable of the transmutation of metals, was something not beyond the possibilities of human invention. It seemed to him that there were three objects which the Royal Society was designed to serve. There was, first, the object of research, without which no progress could be made—and here doubtless their function was twofold. The money grants which the Society was enabled to bestow were in some cases so pitifully small that in his own country they might even be considered as outdoor relief. He knew how passing hard it was to extort from a Chancellor of the Exchequer anything except his blessing. But after all he did not know that that mattered, for he did not suppose that the progress of science ever could depend upon State aid. Surely that progress must depend upon that love of knowledge for the sake of knowledge, or of striving for the sake of striving, which was the true mainspring in all sections of every art and science; and, indeed, of every fruit-bearing action of life. Another object of the Society was to bring scientific men into touch with one another. There was a day when the field of art and science and knowledge of every sort was so restricted that it was sometimes possible for one man to master the ambit of all. We must note how in these latter days the sciences were allied. The more the field was widened the more there was borne in upon one the old saying *Ars longa, vita brevis*. It was one of the functions of the Royal Society to bring together men prosecuting research in different fields, and so far as possible to give to each the results of the others' experience. Lastly, he thought one of the functions of the Society was to popularise science. His Lordship concluded by coupling the toast with the name of the President, Lord Rayleigh, who was no mere figure-head President, but a devoted and distinguished man of science.

The President, after responding, proposed the health of the distinguished men of science to whom the medals of the Society had that day been presented. These gentlemen—Professor Michelson, Professor Morley, Professor Wirtinger, Dr. Traquair, Dr. Hobson, and Professor Griffiths—successively responded.

At the anniversary meeting of the Society on Saturday, Lord Rayleigh, the President, in presenting the Society's medals, intimated that the Copley medal was awarded to Professor Albert Abraham Michelson, on the ground of experimental investigations in optics. One of the Royal medals had been awarded, with the approval of His Majesty, to Dr. Ernest William Hobson, F.R.S. During the last twenty years Dr. E. W. Hobson has been distinguished for the fundamental character of his contributions to mathematics and mathematical physics. His Majesty had also approved the award of a Royal medal to Dr. Ramsay H. Traquair, F.R.S. Dr. Traquair was honoured on the ground of his long-continued researches on the fossil fishes of palæozoic strata which have culminated within the past ten years in his discovery of new groups of Silurian and Devonian fishes; and in his complete exposition of the structure of *Drepanaspis Phlyctenaspis* and other remarkable forms. The Davy medal was awarded to Professor Edward Williams Morley. Professor Morley was well known both to chemists and to physicists for his work in the application of optical interferences and other physical phenomena to increase the accuracy of measurement. His determinations of the absolute weights of a litre of hydrogen and of oxygen, and his investigations of the amounts of moisture retained by gases dried by various desiccating agents, were of the very greatest importance for scientific progress. Professor Wilhelm Wirtinger, of Vienna, was the recipient of the Sylvester medal. He was distinguished for the importance and wide scope of his contributions to the general theory of functions. The Hughes medal was awarded to Principal Ernest Howard Griffiths. Principal Griffiths had conferred great benefit on physical science by his series of measurements of fundamental constants, mainly in the domain of thermal and electric energy. The Buchanan medal was awarded to Mr. William Henry Power, C.B., F.R.S. Mr. Power's services to hygienic science and practice had extended over a period of more than thirty years, and had been of the most distinguished kind.

CHINESE METALS AND MINERALS.

In 1903 the nett import of all kinds of copper into China was 5,555 tons, of the value of £336,526.; in 1904 it was 17,323 tons, of the value of £1,254,252; and in 1905 it reached a total of 57,500 tons, worth £4,690,861. In 1906 large quantities of ingots and slabs were re-exported and the net import was only 3,724 tons, valued at £379,263. More than half of this import was unclassed copper; 1,025 tons were made up of bars, rods, sheets, plates and nails; ingots, slabs and ore accounted for 540 tons, and there were 122 tons of wire. Brass and yellow metal also declined in quantity, wire alone showing an aadvance of 14 tons, and being over 21% ahead of the average import of the previous five years.

Tin and sheet lead rose 100%. There was a drop of 22 tons in nickel, and 7 tons in quicksilver. Spelter dropped from 1,932 tons in 1905 to 473 tons in 1906, the decline being due to the restrictions on the output by the provincial mints of copper coins in which it forms the alloy. Most of the imported tin comes from Ko-chin ch'ang mines in Yünnan. The tin arrives in three qualities, the first and second being fairly pure, but the third often containing 20% of lead. The slabs are melted in concave iron pans resting on brick furnaces fed with wood fuel. In the centre of each pan is placed an open upright cylinder, one foot high and one foot in diameter, surrounded with tin dross through which the molten metal filters into the cylinder, and is tossed, skimmed, and ladled into sand moulds, emerging when cooked as refined ingots. The skimmings and dross are treated with charcoal in bellows-furnaces, and the resulting metal refined in the usual way. The final dross is sold and finds its way to Shanghai, where it is treated for the small quantities of tin and iron which it contains. The tin, as it arrives from Yünnan, is worth 96 to 97 dols. a ton, and after refining, about 100 dols. Some of the tin goes to the U.S.A. and Germany. The Chinese export of tin for 1906 was 4,052 tons, against 4,482 tons in 1905, while the import into China was, for the same years, 2,158 and 3,224 tons respectively.

The import of tinned plates rose from 10,395 tons in 1905 to 14,157 tons in 1906, an advance of nearly 128% on the average of the previous five years. This is due to the rapidly increasing number of kerosene oil tank installations at ports in China

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which can be reached by steamers carrying oil in bulk, and where the oil is tinned for distribution. Three plates, a round cap, five inches of galvanised iron wire for a handle, a small round socket for the latter, and a little chloride of zinc and solder are required to make up a kerosene tin. All except the soldering, done by hand, is manufactured by ingenious labour-saving machinery. The plates are flattened, hemmed, folded, joined, tops and bottoms cut and inserted, handles folded, and tops punched for filing by one machine after another. The empty tins are placed on a scale or balance and the filling tube inserted in the punched orifice in the top; when the necessary amount of oil has run into the tin, the balance falls and automatically closes the tube. So valuable has the tin become (in the United Kingdom, during 1906, the price was from £161. to £215. a ton) that all the punched and refuse plates are shipped to Europe. The old kerosene tins are in great demand by the native tin-smiths and are manufactured into all kinds of household utensils, such as kettles, buckets, etc.

German silver increased from 403 tons in 1905 to 458 tons in 1906, the import exceeding the previous five years' average by 85%. Zinc sheets and plates advanced from 271 to 653 tons, and the value of unclassed metals from £25,742. to £27,758. The following is a comparative statement of the imports of metals:

Articles	Quantity. Average 1901-05.	1905.	1906.	Increase or Decrease in 1906 compared with 1905. Quantity.	Average 1901-05.
	Tons.	Tons	Tons.	Tons.	Per cent.
Copper—					
Bars, rods, sheets plates and utensils	849	1,141	1,025	− 511	+ 46·27
Ingots, slabs and ore	19,207	43,471	549	− 42,491	− 95·79
Wire	136	52	122	+ 40	− 10·28
Unclassed*	202,830	1,357,202	233,127	− 1,124,075	+ 20·38
Lead—Pigs and bars	8,559	8,384	8,587	+ 203	+ 0·32
Tea and sheet	199	145	295	+ 150	+ 0·32
Nickel	103	121	69	− 22	− 3·78
Quicksilver	89	9	22	− 7	+ 5·09
Spelter	5·3	1,932	473	− 1,459	− 19·55
Tin in slabs	3,605	3,524	2,152	− 1,667	− 41·43
Tinned plates	6,215	10,395	14,157	+ 3,762	+ 127·78
White metal or German silver	347	403	458	+ 55	+ 85·42
Zinc, sheets and plates	...	271	653	+ 382	+ ...

*Including copper blanks for coinage.

Among the minerals (gold and silver excepted) exported from China to foreign countries are antimony, iron, lead, quicksilver (used in Hong-Kong in the manufacture of vermilion), tin and zinc. With the exception of the iron, which comes from Hupei, they are derived from Western and South-Western China, including the provinces of Ssuchuan, Yünnan and Kweichow. Antimony comes from the south-east corner of Ssuchuan, but is also abundant in the provinces of Kweichow and Kwangsi, although as yet practically unworked; lead comes from Yünnan, but is also found in Kweichow; quicksilver from the south-east of Kweichow, where an Anglo-French Company is at work; and tin, as already stated, comes from the famous Kochiu mines in Yünnan. Deposits of tin would also appear to exist in Kwangsi, for 561 cwts. of tin slabs were brought to Wuchow in 1906 under transit from the prefectures of P'ing-lo and Ch'ing-yüan in the east and centre of the province and well away from the trade route from Yünnan, which may be credited with 52 cwts. conveyed under transit pass to Wuchow from Nanning. Zinc is found in Ssuchuan, and possibly in Hunan.

There are antimony smelting works at Wuchang on the opposite bank of the Yangtsze from Hankow, the property of a German firm. As the export of minerals is annually becoming more important, the subjoined table will show the present position of the trade:—

	1905. Quantity.	1905. Value.	1906. Quantity.	1906. Value.
Antimony—	Cwts.	£	Cwts.	£
Regulus & refined	66,000	28,606	75,373	43,928
Ore	46,264	11,932	71,333	20,296
Lead	..	..	105	112
Lead ore	28,321	4,860	48,721	8,972
Quicksilver	332	4,306	362	4,002
Tin, in slabs	89,645	517,666	81,034	530,891
Zinc	803	509	1,445	1,124
Zinc ore	138,453	11,820	151,119	14,914

BORAX IN PERU.

THE working of the borax deposit at Lake Salinas, in Peru, is the subject of some notes in the *Engineering and Mining Journal* (New York). Lake Salinas lies at an altitude of about 14,200 feet, occupying the bottom of a large basin in a markedly volcanic region. The quantity of water discharged into this basin has diminished to such an extent that the so-called lake is now dry for the greater part of the year. The following is a description of a vertical section of the deposit:—A superficial crust of chloride and sulphate of soda, fine sand 10 to 14 cm. thick, gravel 6 cm. thick, sand with layers of borate 20 to 50 cm. thick, shallow fine sand, borate of variable thickness, usually 40 cm. but sometimes reaching a maximum of 1 m. The borax deposit is a calcium sodium-borate, or ulexite; on extraction the percentage of boracic acid is 30, afterward being raised by artificial desiccation to 52. Two kinds of borate are recognised —the *sedoso* (silky), which is fibrous ulexite with a brilliant silky lustre, and the *corriente* or ordinary borate, which generally contains water and other impurities.

The borate bed being impermeable, the parts of the lake containing no borate are easily recognised by the presence of pools of water that do not dry up. The borate is extracted by means of shallow pits 1 m. wide by 2 or 3 m. in length. When all the borate has been taken out, the water rises and fills the pits—they are dug in series, and space is left between them for transport—upon which another is sunk, a narrow wall being left between the two to prevent flooding of the second pit. Decauville transmission lines are used to collect the borate from the point of exploitation to the central station where the drying and sacking take place. Twelve furnaces are used for the former purpose, each one having a daily capacity of 85 quintals and a fuel consumption of 68 quintals of "yaretas."

This "yaretas" is a vegetable peculiar to the elevated regions of the country, its calorific value being derived from the quantity of rosin found in it. It cannot be used more than twenty days after culture, as it then begins to dry and rot; it is found in abundant quantities, its cost, delivered at the furnaces, being 22c. per quintal. Transportation to Arequipa costs 70c. per quintal. The average shipments to that city are about 3,000 quintals a month.

QUININE PRODUCTION IN INDIA.

THE last annual report of the Madras Cinchona Department gives the out-turn of quinine as amounting to 20,448 lbs., the highest on record. The cost per lb. of manufactured quinine was Rs.10.14½. The Government purchased about 50,000 lbs. of Java bark from Amsterdam as an experiment, and the results were satisfactory. There was a saving of about 8 annas per lb. in the cost of the quinine, and if the Madras bark had been as rich, there would have been double the quantity of quinine produced. The quinine issued from the Government factories was 18,548 lbs., and 2,437 lbs. of febrifuge—another record. The balance sheet shows a profit of Rs.134,035. The Government have a large stock of febrifuge, and are anxious to ascertain its commercial value in Europe.

The Bengal cinchona plantation and factory are in Sikkim. An extended area of 141 acres was planted up last year with 374,159 young trees, the greater portion being *Cinchona Ledgeriana*. The amount of bark yielded during the year was 376,025 lbs., and the total bark worked up in the factory amounted to 598,500 lbs. The output of quinine sulphate was 16,065 lbs., but production was retarded owing to erection of new machinery. No cinchonidine sulphate was manufactured during the year, as the demand had ceased. The profit on the year's working was Rs.1,880.

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Continental Notes.

A NEW method for the determination of the fat in milk forms the subject of a communication by Dr. H. Timpe to the *Chemiker-Zeitung*, for November 6. The principle is the same as that of Soxhlet's method—that is to say, the specific gravity is taken of an ethereal solution of the fat. In order to prevent the ether forming an emulsion with the milk, Soxhlet added caustic potash, but this had the disadvantage that some of the fat was saponified, and consequently the results were not accurate. Timpe, however, uses sulphuric acid to destroy the casein, and then has no difficulty in shaking out all the fat with ether. He places 100 c.c. of the milk in a separating funnel and adds 50 c.c. of concentrated sulphuric acid. As soon as the casein has been completely dissolved, 50 c.c. of water are added to prevent further action, the liquid is cooled and shaken out with absolute ether, and the specific gravity is taken at 15° C. The percentage of fat can then be obtained directly from a table given in the paper.

In the same issue E. Wedekind describes a simple method for demonstrating the emanation from radium. It consists essentially in decomposing radium-barium carbonate inside a tube, by means of hydrochloric acid, driving the gases evolved into another smaller tube, absorbing the carbon dioxide (and, if necessary, oxygen and nitrogen), and finally examining the minute residue, which consists mostly of emanation. The author also makes some remarks upon the radio-activity of uranyl molybdate.

The issue of November 9 opens with an article by O. N. Witt in celebration of the fortieth anniversary of the foundation of the German Chemical Society. The writer briefly refers to the action of Hofmann in starting the Society, and the services of those who have been most active in carrying it on.

There is also a paper by C. Zenghelis on the metal of an old Egyptian die for coining. In spite of the fact that it must have been made 300 or 400 years B.C., it was found to be very free from impurities, and to contain tin and copper in the proportion of one to three, which is exactly the composition which gives the hardest alloy. From this an idea may be obtained of the great degree of metallurgical skill that had been reached in Egypt at this early date.

The manufacture of fertilisers in American slaughter-houses forms the subject of another communication. Formerly the disposal of the offal was costly and troublesome, but now it is a source of additional income, and no part is wasted. The various products are known as tankage, concentrated tankage, dried blood, raw bones, raw bone meal, steamed bone, steamed bone meal, azotin, and hoof meal. Tankage is the residue that is left after boiling offal and small bones with water to extract the fat. After pressing and drying it contains 7 to 10% ammonia and a large proportion of phosphate. The water from this operation is evaporated down with ferrous sulphate, and yields the "concentrated tankage," which contains 15 to 16% ammonia. Dried blood is made by boiling down the fresh blood until it coagulates, and pressing. The press-cake, which contains 50% water, is then broken up, dried, and ground. If not mixed with other by-products, it contains 16 to 17% ammonia. Azotin is made from boiled cracklings, which are submitted to a high pressure in order to eliminate the fat as far as possible, then dried, and ground. The material loses 30 to 40% of its weight in the process, and several per cent. of ammonia. The large slaughtering establishments do not concern themselves with this article, as a rule, but leave it to the small tallow and fat boilers.

In the same issue, J. v. Ferentzy describes a method for the determination of tartaric acid in the presence of malic and succinic acids, by precipitation with magnesia mixture in a solution in 50% alcohol.

The issue of the *Chemiker-Zeitung* for November 13 contains brief reports of the papers read at the anniversary meeting of the German Chemical Society, to which reference has already been made. Prof. Nernst spoke on the most important advances in general and physical chemistry during the last 40 years; Landolt dealt with inorganic chemistry; Græbe with organic chemistry; and Witt with technical chemistry. The whole list, although it does not profess to be more than a brief summary of recent discoveries, is extremely impressive.

The same issue contains a paper by M. C. Schuyten on the reactions of the halides of mercury with the halogens. Contrary to the general opinion, he finds that iodine acts upon mercuric chloride and partly converts it into the iodide, and that iodine has a similar action on mercuric bromide under certain circumstances; in fact, any one of the halogens—chlorine, bromine, or iodine—may be replaced by another in combination with mercury.

B. Jost points out that radium bromide ought to be kept in bottles closed with glass stoppers, and not rubber corks, else there is danger of losing part of the precious material.

Answers to Correspondents.

We cannot undertake to reply to correspondents through the post. Those of our readers who have addressed queries to us should look in this column for a reply.

S. J. and Co.—Thanks for your letter. We inferred the cause of miscarriage.

B. and T. (L.), Ltd.—We should like to have the blocks and matter within the next fortnight.

S. and Co., Ltd.—We are looking into this matter, and will write you direct in the course of a day or two.

C. C. (Liverpool).—We are greatly obliged by your courtesy in sending us the documents, which we have duly returned.

D. B., Ltd.—We have now obtained verification of the shipment of "Carbonate of Ammonia," and find that the entry is incorrect. You would notice a correction in last week's issue.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

A MEETING of the Section took place on the evening of Friday, November 29, at the Glasgow and West of Scotland Technical College, George-street, Glasgow, Mr. R. T. Thomson, F.R.S.E., presiding. Mr. Harry Dunlop read a paper on "The Testing of Sperm Oil and Spermaceti," in which he detailed the results of a rather comprehensive field of analysis within the department named. A number of samples of sperm oil and spermaceti had been through his hands, the main objects of the research being the detection of adulterants in these samples (chiefly mineral oil and paraffin wax); the viscosity of sperm oil as compared with other oils; the presence of glycerides in sperm oil, and the detection of blubber oil in the same. The samples operated upon included both Southern and Arctic sperm oils, taken from reliable sources, these differentiating into cachelot oils, from head matter and from body matter; Arctic sperm (bottlenose), and Southern sperm. Tables of analysis accompanying the paper showed, for the separate samples treated, results in specific gravity, iodine value, wax alcohols, saponification, free acid, etc. Another table gave the viscosity details (by Redwood's viscometer) of these sperm oils, and also, for comparison, of mineral oil, lard oil, horse oil, tallow oil, whale oil, and others, while a further table dealt with the glycerol and bromides from sperm oil. The paper was of a highly practical nature, and the author received a hearty vote of thanks for his contribution to the records of the Section.

Naphtha Pits on Fire in Galicia.—A report from Boryslav, Galicia, states that two naphtha pits were destroyed by fire there on Tuesday week.

Nitrate Statistics.—The Permanent Nitrate Committee, in their public statistical circular for December, state the shipments of nitrate of soda as follows:—(1.) Total exports to Europe, November, 3,956,400 quintals. (2.) Imports, Europe, November, 72,100 tons. (3.) Deliveries, Europe, November, 36,650 tons. (4.) Visible supply, Europe, 1st December: Stocks and afloat, 627,990 tons.

Amyl Acetate.—The manufacture of amyl acetate in this country has recently attracted some attention. We learn from Messrs. Boake, Roberts and Co. that they have now a large plant engaged exclusively in the preparation of this article. Considerable difficulty was formerly experienced in securing supplies of chemically pure amyl acetate from the Continent, but the article can now be supplied of English manufacture, and of almost chemical purity. We understand that Messrs. Boake, Roberts and Co. have a still larger plant on order, and it will be seen that consumers in this country should have no difficulty in filling their requirements.

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The Patent List

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Drying Apparatus. J. L. Sebastian. 25,493. Nov. 18.
Crushing or Grinding Ore. D. Honeywood. 25,497. Nov. 18.
New Dyestuffs of the Anthracene Series. P. A. Newton. 25,507. Nov. 18.
Highly Brominated Dihalogen Indigos. O. Imray. 25,513. Nov. 18.
Highly Brominated Halogenised Indigos. O. Imray. 25,514. Nov. 18.
Electric Dissociation of Metals by the Wet Method. A. Levy. 25,553. Nov. 18.
Carbon. E. Breadner and R. Billington. 25,588. Nov. 19.
Utilisation of Nitrous Gases. K. Birkeland. 25,632. Nov. 19.
Raising or Forcing Liquids. H. A. Humphrey. 25,638. Nov. 19.
Filtering Smoke Gases or Products of Combustion. W. F. L. Beth. 25,644. Nov. 19.
Electrodeposition. L. Hausmann. 25,669. Nov. 20.
Magnetic Separation of Minerals. G. T. Holloway. 25,705. Nov. 20.
Deodorising Naphtha. Re De Fazi, F. G. Claussen, and G. T. B. Cobbett. 25,711. Nov. 20.
White Sulphate of Lead Pigment. J. B. Hannay and S. B. Wilson. 25,753. Nov. 20.
Hydraulic or like Cement. Collos Portland Cement Co., Ltd., and 25,795. Nov. 21.
Dioxynaphthyl-methane Preparation, Soluble in Water. P. Bachman. 25,817. Nov. 21.
Varnishes. E. H. Strange, C. A. Pim, and E. R. Burrell. 25,827. Nov. 21.
Copper, Lead, Tin, and Antimony Ores Treatment. J. C. Butterfield and N. M. Ogle. 25,891. Nov. 22.
Suction Gas Plant. D. Lewis and M. Briggs. 25,896. Nov. 22.
Hydraulic Cement. C. J. Potter. 25,969. Nov. 23.
Roasting and Sintering Ores. A. S. Dwight and R. L. Lloyd. 25,985. Nov. 23.
Receptacles for Liquids and Gases. P. Zürn. 26,008. Nov. 23.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Treatment of Fish Offal for the Production of Fertilisers. Pearson. 25,882.
Revivifying Oxide of Iron. Glover and Glover. 26,039.
Rotary Kilns for Lime, Cement, Chemicals. Von Radlowski. 26,150.
New Ortho-oxydisazo Colouring Matters. Bloxam. 26,508.

1907.

Gas Producers. Daniels, Higgins, and Daniels. 1,313.
Electrolytic Rectifiers. De Faria. 1,456.
Rotary Cement Kiln. Morgan. 8,760.
Drying and Grinding Materials. Imray. 9,741.
Vat Dyeing with Colouring Matters of the Gallocyanine Series and Derivatives. Johnson. 10,557.
Resin Size-Boiling. Schmidt. 15,527.
Removing Soda-lye from Fabrics. Venter. 15,352.
Concentrating Apparatus. Kestner. 18,576.
Tungsten Dioxide. Westinghouse Metal Filament Lamp Company, Osman. 18,922.
Edestin from Cotton Seeds. Levi. 19,392.
Dichloro-ethylene from Symmetrical Tetra-chloro-ethane. Askenasy and Mugden. 19,576.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or relating to the Treatment of Zinc Residues. R. W. E. MacIvor, Glengall Road, Millwall, and M. Fradd, Finsbury House, Blomfield Street, London, E.C. British Patent, 21,440. September 27, 1906.

This invention relates to improvements in the treatment of zinc residues, the object being to extract zinc from zinc furnace distillation residues containing metallic zinc, metallic iron, zinc silicate, zinc oxide, zinc sulphide and also metallic lead, lead-silver and other products, in order to recover the zinc and to enable the other metals to be effectively treated. Various processes have been proposed for treating such residues in order to obtain the zinc therefrom as zinc sulphate, and in the treatment of complex sulphide ores it has been suggested to extract zinc as chloride from certain roasted products by the joint action of certain acidified solutions of mixed chlorides.

In accordance with this invention the solid residues are treated with calcium chloride solution and sulphuric acid; the zinc chloride solution thus formed is separated and zinc oxide is precipitated therefrom in a well-known way by the addition of lime. According to one method of working the invention, sufficient calcium chloride solution is run on to the dumped material or residues, contained in a tank or suitable receptacle, to yield a quantity of chlorine equivalent to the quantity of zinc to be dissolved. The necessary equivalent quantity of sulphuric acid is also added to produce the zinc chloride solution and to precipitate calcium sulphate into the residues in accordance with the equation:—$CaCl_2 + H_2SO_4 + Zn = CaSO_4 + ZnCl_2 + H_2$. The reaction itself generates sufficient heat to warm the solution, but if necessary further heat may be applied. The solution of zinc chloride is now removed from the residuum by decantation, filter-pressing, or other method, and the solution is treated with lime in quantity equivalent to the zinc chloride contained, whereby the zinc is precipitated as oxide, and calcium chloride is formed in solution in a condition suitable for repeated use for the treatment of fresh quantities of residues. It is found that the precipitation of zinc oxide from its chloride solution is rendered efficacious by means of milk of lime or of dry lime, if a suitable amount of the precipitant be added to the zinc chloride, and if the mixture is then passed through a tube mill or other suitable type of gently grinding agitator. By such means any small lumps of precipitate which may have formed by accretion around a core of precipitant are ground or broken up, and the core of precipitant thus rendered available to throw down more precipitate. Moreover, the zinc oxide thus produced is of a more granular nature than usual, and is capable of rapid filtration and washing.

Improvements in or connected with Filter Presses. G. A. Stevens, Hazelmere Paignton. British Patent, 3,650. February 14, 1907.

This invention relates to a filter-press filler, or to improvements connected with filter-presses of that class which is used for filtering or separating liquid from solid matter, such as iron oxides, white lead, ochres, china-clay, sewage sludge, and such like. This type of filter-press is usually filled by means of pumps, or by means of an air-compressing plant in connection with the press. According to the present invention the use of pumps (either hand or steam) to effect the filling is dispensed with, and steam is employed to effect the object directly. The steam draws or forces the liquor into the press until a pressure about equal to that of the steam is contained therein, when the steam pressure is turned directly on to the filter-press to complete the pressing and effect the filtration. The full pressure is thus obtained direct on the filter-press, and it is blown through for a suitably short period. Finally a tap is opened to let off the back pressure, and this concludes one cycle.

The illustration shows a form of filter-press filler in accordance with the invention and as applied to a single filter, which is supposed to consist of a number of cast-iron chambers supported and clamped together, and provided with the usual taps for each chamber. In connection with a press of convenient description, such as that marked A, a steam delivery pipe *a* leads from a steam generator or other source of supply, and such pipe *a* is provided with a suitable steam valve a^1 for controlling the fluid, and the steam delivered by this pipe *a* actuates an ejector of any approved description which is located at *b*. This ejector is in communication through a delivery pipe *c* with the filter-press A, and this delivery pipe has a plug tap c^1 located in a suitable positon. Attached to the steam pipe, but in the rear of the controlling valve, is a third pipe or branch *d* which leads to the filter-press, and this pipe or branch is fitted with a steam valve d^1. A fourth or blow-off pipe *e* is connected with the filter press and this blow-off pipe bears a plug tap e^1. The three pipe connections leading to the press may be attached to a main or junction pipe *f*, having three branches to accommodate each of the three connections, and a pipe f^1 leads from the junction *f* to the press as the drawing shows. The filler represented is intended to deal with natural oxide of iron which has been crushed in water, and the liquor is suitably conveyed to the foot of the delivery pipe. The filler may raise and fill a press with other liquor containing solid matter, as described.

In working the appliance, and supposing all valves and taps closed, in order to start, the plug tap c^1 on the delivery pipe *c*, communicating with the filter, is opened, and then the steam

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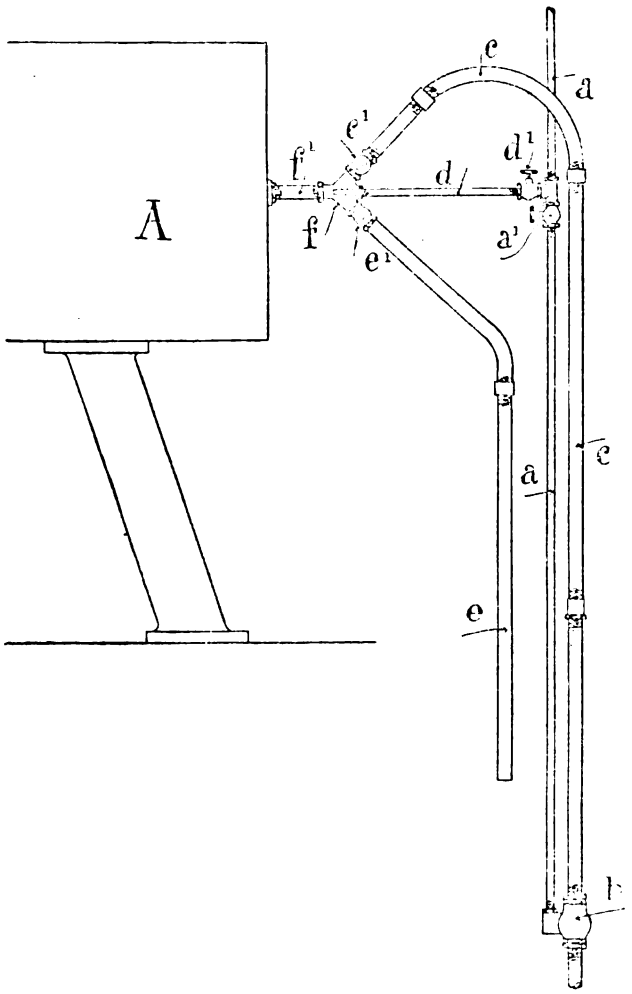
valve a^1 on the main steam pipe a. The liquor is then lifted along the delivery pipe c and forced into the press by the ejector, and the press begins to filter, and fills until the pressure in the press A about equals the pressure of the steam. When this occurs and no more liquor can be forced in, the steam begins to bubble back and escape through the liquor at the base of the delivery pipe c. The steam valve a^1 is now closed, and also the



plug tap c^1. To effect the pressing of the material and to complete filtration, the steam valve d^1 on the branch or auxiliary steam pipe d (the nozzle of which projects into the junction branch f) is next opened, and when the valve d^1 is opened steam pressure is thrown directly on the filter, and such steam pressure is kept on the required short space of time, when it is turned off by shutting down the valve d^1. The effect of the steam pressure directly on the filter press is to effect a thorough filtration and to drive out all the liquid, leaving the deposit on the plates, or in the chambers, and the steam is kept on until all the liquid is driven out, when steam will escape. When steam begins to escape, filtration is complete, and the steam valve d^1 can be at once closed. Finally the plug tap c^1 on the other or blow-off branch pipe c is opened to let off any pressure. The usual drainage taps are used in connection with the filter plates in the press A, and, when the filtration is completed, the cake of solid matter is left between the plates and removed as usual.

Improvements in the Manufacture of Tartaric Acid. Sir John McDougall and F. L. McDougall, both of Clifton House, Greenwich Park, Kent. British Patent, 4,613 February 27, 1907.

In the manufacture of tartaric acid the acid is converted into its calcium salt, which is then decomposed by sulphuric acid. The present invention relates to a process whereby this step, with its attendant disadvantages, is avoided. An alkali salt, preferably the potassium salt of the acid, is obtained, and treated with sulphuric acid so as to obtain a solution of alkali sulphate and tartaric acid. To this solution is added a suitable sulphate such as aluminium sulphate, in solid form or as a solution, so as to produce an alum in the solution. The alum is then separated from the tartaric acid by crystallisation. An ammonium salt and double alkali salts are included in the term alkali salt. For instance, in treating lees, sufficient sulphuric acid is added to the raw material to convert the potassium bitartrate into potassium sulphate and tartaric acid, and what calcium tartrate may be present into calcium sulphate and tartaric acid. The liquid, after separation from any solid matter that may be present, is mixed with aluminium sulphate equivalent to the potassium sulphate, that is to say, in the proportion for forming alum, and the solution is concentrated to crystallise the alum, as many crystallisations being effected as may be necessary to free the tartaric acid from alum. From the mother liquor tartaric acid is crystallised, aided, it may be, by addition of sulphuric acid.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid	COMPANIES.	Closing Price Wednesday, Dec. 4.
120,000	1	1	Bell's Asbestos ... ord	1 13/16 1 15/16
	Stock	100	Borax Consol 4½% deb. stock red.	106½
80,000	10	10	Do 5½% cum. pref.	10⅜
1,356,477	1	1	Bradford Dyers ... ord.	22/9 23/3
1,500,000	1	1	Do. ... 5% c.p.	20/7½
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	38/6
10,000	10	10	Do. ... 6% c.p.	12¼
1,962,870	1	1	Brunner, Mond and Co. ord.	4⅞ 5
82,678	10	10	Do. 7% pref	16⅛ 16⅜
96,000	5	5	Bryant and May ... c.p.	12⅛
40,000	10	10	Buxton Lime Firms ord.	6 6½
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	24/-
450,000	1	1	Castner Kellner ... ,,	25/- 25/3
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3⅝ 3⅞
6,000	6	3	Cleveland Salt ... 6% m.p.	2⅝ 2⅞
20,000	10	10	Crosfield J., and Sons c.p.	9¾ 10
85,000	1	1	Fletcher, Russell, & Co. ord.	28/- 28/6
5,000	10	10	Do. 6% c.p.	11¾ 12
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94
50,000	10	10	India Rubber Co. ... ,,	14¼ 15¼
	5	5	Lagunas Nitrate ... ,,	3⅛ 3⅜
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11½ 12
200,000	10	10	Lever Bros. ... 5% c.p.	10¼ 10½
400,000	10	10	Manchester Ship Canal ord.	20/3
400,000	10	10	Do. per 5% pref.	30/6
120,000	1	1	Mandelberg J. & Co. ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	8¾ 9¼
228,540	10	10	Nobel Dynamite Trust ,,	16
	10	10	Do. share warrants	16
200,000	1	17/	Oakbank Oil, Ltd. ... ord.	35/-
	1		Pears, A. and F. ... ,,	31/-
70,000	10	10	Pease and Partners ... ,,	11¼ 11¾
37,500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/	Pumpherston Oil, Ltd. ,,	12½
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	6 5½
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
190,962	1	14/6	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	17/1½
100,000	6	6	Do. ... 7% n.c.p.	4½ 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	13/16 13/16
	1	1	Schibaieff Petroleum ,,	5/8 5/8
£6,250,000	Stock	0[illegible]	South Metropolitan Gas ,,	121
45,000	10	10	Steiner, E. and Co. 5% c.p.	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼
289,313	10	10	United Alkali ... ord	77/-
282,524	10	10	Do. ... 7% pref.	10⅝ 11 1/16
80,000	1	1	United Indigo & Chemical ord	2/6 3/-
66,666	5	5	Willans and Robinson ,,	1 5/16 1 5/16
210,000	1	1	Woolcombers ... 7% c.p.	19/- 19/6
113,202	4	4	Young's Paraffin ... ord.	70/-

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THE SIR JOHN CASS INSTITUTE.

THERE was a large attendance at the Sir John Cass Institute, Aldgate, on Tuesday last, when Dr. R. T. Glazebrook, D.Sc., F.R.S., distributed the prizes and certificates gained by students of that institution during the session 1906-07. Sir Owen Roberts presided, and in a short address sketched the progress of the "youngest but not the least successful of the London Polytechnics" since its opening in 1902. He also paid a high tribute to the several distinguished gentlemen who in the past and on the present occasion had given their encouragement to the work of the Institution by distributing the prizes.

Mr. Baker, Chairman of the School and Institute Committee, then read the report for the past session. The number of students had increased from 376 to 718, and an increased number of students had entered for the London University examinations. A fair amount of original work had been carried out, both by students and masters, fourteen pieces of research—seven in physics, five in chemistry, and two in metallurgy—having been completed and published. The results of the London Final B.Sc. examination had not yet been issued, but he hoped that one of their candidates, who sought his degree by research in physics, would be successful. He felt an especial interest in this student, as he believed it was the first time an external student had sat for the Final B.Sc. in the subject named. There had been a steady growth in the number of students attending the metallurgy classes, in fact, so much so that it had been decided to separate the metallurgy from the chemical department.

Before handing the prizes and certificates to the successful students, Dr. Glazebrook said that the increase in the numbers attending the classes worked out at about 12% more than for last session, and this, taken in conjunction with the high standard of the work maintained, was extremely gratifying. The increase in University students was another feature of great promise. In research also the Institution had come out well, and he expressed the hope that with fuller opportunities some of the students might be able to do even a tithe of the good for mankind that was done by Michael Faraday.

Three students were successful in passing the Intermediate Bachelor of Science examination, and fifteen students obtained first-class Science and Art certificates in chemistry and metallurgy.

After the distribution of the prizes there was an interesting exhibition of students' work and apparatus in the laboratories, workshops, and domestic economy rooms.

"E.C." POWDER CO., LTD.—The directors have declared an interim dividend of 1s. per share for the half-year to September 30

LEAD MINING IN DERBYSHIRE.—At the Matlock County Court, on Monday last, a curious Derbyshire mining case came before Judge Leslie, the parties being brothers, Louis and William Pearson. Louis Pearson owns several fields in Salter's Lane, Matlock, and William Pearson started to search on his brother's property for lead ore. This, the Judge said, would be in common law a serious trespass, but under the Derbyshire mining customs, which had been embodied in an Act of Parliament, a man had the right to delve and search for lead ore on somebody else's land. He had not, however, the right to erect a building known as a "coe" in mining phraseology, until he had freed his claim by producing the dish of lead ore required by the barmaster of the Soke and Wapentake of Wirksworth. The defendant had built a "coe" before producing the dish of lead, and the Judge therefore awarded an injunction against him with £10. damages and costs.

Market Reports.

THE AMERICAN CHEMICAL MARKET.

NEW YORK, Nov. 19, 1907.

(Rate of Exchange, $4.86½ = £1.)

The financial difficulties have been reflected to some extent in the chemical markets, but taking everything into consideration prices hold fairly firm, and business is good. Nitrate of soda, on spot, is $2.40., and futures $2.37½. per 100 lbs. Sulphate of ammonia, $3.05. per 100 lbs. Grey muriate, for galvanising, 5⅞c. to 6c. per lb., as to make, and white electrical, 5½c. to 6c. per lb. Lump sal ammoniac is steady at 9¼c. per lb. Lump carbonate of ammonia is 7⅝c. to 8c. per lb., and powdered nominally is 1c. per lb. more. Bleaching powders are quoted $1.15. to $1.25. per 100lb. Alkali, 58% light, in bags, is 90c. per lb., f.o.r. makers' works, and caustic soda, 74%, $2.05. per 100 lbs., same conditions. Sulphate of copper is 5¼c. to 5½c. per lb. White powdered arsenic is slightly cheaper, at 6¼c. to 6¾c. per lb. Red Saxony arsenic is firm at 7½c. per lb. Calcined carbonate of potash is steady at 3⅞c. per lb. for 80-85%, and hydrated is 4¼c. per lb. Caustic potash, 75%, is 4¼c. per lb. Chlorates of potash and soda are respectively 8¼c. and 8½c. per lb., f.o.r. makers' works. Bichromates of potash and soda are unchanged, at 8⅝c. and 7⅛c. per lb., delivered. Phosphate of soda is dull, at $1.80. per 100 lbs. Prussiate of potash is 15c., and soda 9c. per lb. Antimony oxide is 10½c., and antimony salts, 47%, are 12½c. per lb. Oxalic acid is cheaper at 7½c. per lb., owing to larger stocks. Acetic acid is firm at the Syndicate price of 2¾c. per lb.

TAR AND AMMONIA PRODUCTS.

FRIDAY.

Benzols quiet, with quotations given at 8¾d. to 9d., for 90's; 8¼d. to 8½d. for 50-90's, casks included. Crude tar, 14s. 6d. to 18s. 6d. per ton, Thames; 1½d. to 1⅝d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 23s. 6d. to 24s., f.o.b.; Gas Company, 25s.; East Coast, 22s. to 23s.; West Coast, 21s. 6d. to 22s., f.a.s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 9½d. to 10d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 5¼d. to 1s. 5½d.; 60%, 1s. 8d.; 75%, 1s. 11¾d., casks included. Crystals, 39-40, 5d.; 34-35, 4⅝d. to 5d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45% A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia dull, with very little business passing. Nearest values are:—Beckton, this year, £12. 5s.; next year, £12. 7s. 6d.; Beckton terms, £11. 16s. 3d.; London, £11. 15s.; Hull, £11. 16s. 3d. to £11. 17s. 6d.; Liverpool, £11. 18s. 9d. to £12.; Manchester, £11. 17s. 6d.; Leith, this year, £12. 3s. 9d. to £12. 5s.; next year, £12. 7s. 6d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 9d.; Liverpool, ordinary, 11s. 1½d., and refined, 11s. 3d. Official quotations:—Cargoes, off coast or due, 10s. 10½d.; ditto for prompt shipment, 10s. 11d. nominal.

THE INDIAN CHEMICAL MARKET.

Market movements (Calcutta, November 7) are reported as follows:—Borax: Market weak, and prices have a declining tendency, owing to the influence of increased supplies; rates are Rs.14.12. to Rs.15.4. per bazaar maund weight, loose, for near delivery. Unsold stocks are still light in the market. Saltpetre: Prices steady, owing to a fair amount of buying for Europe for delivery this and next month; sellers are now well sold on the basis of Rs.7.11. to Rs.7.12. for ordinary 5% refraction quality, per factory maund weight, loose. Stocks are light, but supplies are expected on a freer scale. For Furrackabad refined qualities rates are Rs.8.2. to Rs.8.12. per factory maund weight, loose. There has been almost no demand for higher refraction quality. Beeswax: Current prices are still too high to admit of sales for Europe and America. Limited sales are reported for local requirements and for Singapore at Rs.70.0. to Rs.75.0. for refined kinds, and Rs.60.0. to Rs.72.0. for raw, per bazaar maund weight, loose, for near and early deliveries. Stocks are very moderate and supplies are coming in on a small scale. Shellac: The market has collapsed during the past fortnight, the price for T.N. having fallen from Rs.63.0. to Rs.50.0., at which rate some considerable business has been done for December-January delivery. Sellers are weak, and are further depressing prices by offering freely at current rates in face of the absence of orders from Europe and America. Fine shellac and button lac meets with practically no inquiry. Castor oil cake: The market has been dull, but sellers have not reduced their rates, owing to comparatively small stocks and moderate production. Prices are Rs.5.12. for average quality, and Rs.6.2. for picked quality, per bag of 2 maunds, f.o.b., in single gunny for near and early shipments. There has been no demand for export. Bone meal: Quotations remain unchanged at Rs.73.0. for New Zealand quality, and Rs.70.0. for usual standard of steamed quality, guaranteed 4½% ammonia, and 52% tribasic phosphate of lime, per ton of 20 cwts., f.o.b., for near and early shipments. Bone dust, of inferior analysis (say 3½% ammonia and 40% tribasic phosphate of lime) is quoted

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at Rs.52.0. per ton of 20 cwts., f.o.b., for both steamed and unsteamed qualities. Offerings are moderate. Castor oil: Crushers have lowered their prices, and export business has been done on the basis of Rs.19.8½. for No. 1 fine pale, Rs.13.14½. for good seconds, and Rs.13.8½. for thirds, in cases, per bazaar maund weight, f.o.b. for shipment this month. Offerings of all descriptions are small, especially fine qualities. Cocoanut oil: The market continues very steady, and little has been done for export; rates Rs.20.8½. to Rs.23.0. per bazaar maund weight, f.o.b., for near shipment. Salt: The market continues steady; local stocks held in maund weights were:—Ex Liverpool, 573,013 maunds; Hamburg, 616,877; Aden, 308,901; Saliff, 375,940; Phocee, 128,842; Spanish, 364,004; Bombay, 15,236; and Port Said, 181,000 Quotations per maund were:—Liverpool, Rs.47.0. to Rs.50.0.; Hamburg, Rs.42.0. to Rs.47.0.; Aden, Rs.40.0. to Rs.44.0.; Saliff, Rs.39.0. to Rs.53.0.; Phocee, Rs.41.0. to Rs.43.0.; Spanish, Rs.44.0. to Rs.49.0.; Bombay, Rs.48.0.; and Port Said, Rs.45.0. to Rs.47.0.

FERTILISER MATERIALS.

Thursday.

Quietness still prevails in all markets for manure material, and there is nothing of special interest to report in mineral phosphates.

Owing to a large arrival of East Indian bone meal, shipped to Liverpool unsold, the market is easier on spot. Sellers would accept £5. per ton, ex quay, less 2½% discount. For shipment, however, £5. per ton, nett cash, c.i.f. terms, Liverpool, is still required.

Although there has been a slight advance in nitrate of soda on the Continent, spot prices in Liverpool remain 11s. per cwt. for 95% quality, and 11s. 1½d. per cwt. for refined, ex store, Liverpool, less 2½% discount.

THE LONDON METAL MARKETS.

Wednesday.

Copper: Standard brands, £61. 2s. 6d. to £61. 7s. 6d. cash, and for three months £61. 17s. 6d. to £62. 2s. 6d. Tin: G.M. quality, £133. 5s. to £133. 15s. cash, and £134. 5s. to £134. 15s. three months; English, £135.; Banca, 81¾fl. Lead: Soft foreign, December, £15. 15s.; January, £15. 15s.; February, £16.; March, £15. 15s.; English, £16. to £16. 2s. 6d. Spelter: Ordinary brands, January, £21.; March, £20. 10s. to £20. 12s. 6d. ex ship; hard, £17. 5s. to £17. 10s., f.o.b. Antimony, £32. to £34. 10s.; crude ore, £9. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £100. Wolfram, 30s. Pig-iron closing prices:—Cleveland, 40s. cash; 48s. 10d. one month; 48s. 6d. three months; settlement price, 49s.

LIVERPOOL OIL MARKET.

Wednesday.

OILS.—Palm oil firmer, sales including rough Sherbro', on spot at £25., ex quay; further Niger on spot at £26.; hard oils, for arrival, at £26. 5s.; soft oils, for December delivery, at £27. 2s. 6d. to £27. 5s. Old Calabar, for early arrival, at £27. 5s. to £27. 7s. 6d. Emoe, on spot and for December delivery, £27. 10s., and Lagos, for December delivery, £28. 5s., all in transit. Linseed oil dull, with quotations given at 24s. to 25s. per cwt., for Liverpool makes in export casks. Cottonseed oil quiet, with values given at 24s. 3d. to 25s. 3d. per cwt., for Liverpool makes in export barrels. Turpentine continues steady, with quotations for spot parcels at 36s. 3d. per cwt. Petroleum in fair demand, and still offering at 7d. per gallon for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit in fair inquiry at 1s. 0½d. to 1s. 3d. per gallon for spot parcels of American, and a steady trade is ensuing.

LIVERPOOL DRYSALTERIES.

Wednesday.

Montreal potashes are firm, but only restricted supplies are available, which are offered at 36s. 9d. to 37s. per cwt. Pearl nominal, owing to absence of supplies. Logwood quiet but steady, at recent prices. Cutch: Prices steady, but little doing. Gum firm, and in slight demand. Castor oil quiet, but the market is steady, with quotations at 3 7/16d. for first pressure, 3½d. for second pressure French, 3⅝d. for good seconds Calcutta, and 3¾d. per lb. for first pressure French; no quotations for shipment of forward parcels of Calcutta. Gambier quietly steady; ruling prices are: 23s. to 23s. 6d. for block, on spot; 22s. 6d. for near-at-hand parcels; 20s. 3d. for November; 19s. 6d. for November-December; and 18s. 9d. per cwt. for December-January shipment; cubes, 29s. to 29s. 6d.; November shipments, 28s., and November-December shipments, 27s. 10½d. per cwt. Shellac dull, sales including fair T.N. orange, 120s.; fine to superior at 127s. 6d. to 132s. 6d., and December-February shipment, 108s., c.i.f.; March, 113s., and May, 115s. Glucose quiet: American liquid, 43%, on spot, 11s. 9d., January-March delivery, 11s. 3d., and January-March shipment 9s., c.i.f., "Union Jack." Crystal, January-March delivery, 11s. 3d., ex works, London; chips, 80%, for shipment, quoted at 9s., and 70% 9s., c.i.f. American powdered starch, 11s. on spot, and for shipment, 10s. 6d., c.i.f. Cream of tartar, 98% foreign powder, 88s. to 89s.; 95%, 86s. to 87s. Tartaric acid: English, on spot, 11½d.; foreign, 11d. Citric acid: English, 1s. 8½d.; foreign, 1s. 8½d.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

The course of business, generally, is quiet and uneventful. In the alkali and heavy chemical trade a normal output and steady demand are maintained, and values all round are firm. Sulphate of copper has undergone some fluctuations in price during the week, and stands at £22. 10s. to £22. 15s., f.o.b., for December and early spring delivery. Alkali, 58%, is firm at £4. 10s., in bags, f.o.r., and caustic soda, 70%, is unchanged at £10. 5s. per ton, f.o.b., for prompt and forward delivery. Soda crystals, 57s. 6d. per ton (in bags) f.o.r. Bleaching powder, £4. 7s. 6d. to £4. 10s., f.o.r. and f.o.b. Chlorates, 3½d. per lb. Saltcake is steady, at 42s. 6d. per ton, in bulk. Glauber salts, 35s. to 37s. 6d. per ton. For sulphur there is fair demand at £4. 17s. 6d. to £5., for recovered; best thirds, c.i.f., £4. 10s. Acetate of lime is rather lower in price for spot delivery. Acetic acids and acetates are steady in price, but demand is somewhat quiet. Prussiates are unchanged, at 3⅝d. and 5⅝d. White powdered arsenic is quoted £27. to £29. per ton, according to brand. Demand for green copperas is active and prices are firm. Potash, caustic and carbonate, are steady in price and well sold for prompt and forward delivery. Ammonia muriate steady, at £24. 10s. Liquid ammonia, 920, £13. per ton. All other ammonia products are firm and in good general demand.

HULL PAINT, OIL, AND COLOUR REPORT.

Wednesday.

OILS.—In face of the competition for money this market all round has suffered, whether in seed, oil, or turpentine; several spasmodic efforts for recovery have been made, but these cannot be maintained, and markets all round close lower. Amongst the principal imports here to date, as against a year ago, are:—Wheat 3,836,433 qrs., against 3,608,154 qrs.; flour 203,731 cwts., against 327,836 cwts.; linseed 762,232 qrs., against 535,059 qrs.; rapeseed 101,209 qrs., against 120,715 qrs.; cottonseed, Egyptian, 168,708 tons, against 147,858 tons; other kinds 151,886 tons, against 111,923 tons; oilcake 24,390 tons, against 30,649 tons; hemp 123,852 cwts., against 147,984 cwts.; olive oil 3,806 tons, against 3,587 tons; tar 14,809 br'ls., against 13,403 br'ls. Amongst the weekly imports are:—Lard, 216 cwts.; margarine, 2,984 cwts.; sugar, 25,589 cwts.; hemp, 5,530 cwts.; hides, 439 cwts.; pig iron, 1,059 tons; colours, 1,683 pkgs.; wool, 92,993 lbs.; oilcake, 759 tons. Exports:—Oil, 10,014 cwts.; colours, 3,016 pkgs.; chemicals, 2,126 pkgs.; Linseed oil closes lower by 15s. per ton; spot, naked, 21s. 9d.; November-December, 21s. 6d.; January-April, 20s. 6d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports for the week:—272 tons Australia, 3 Denmark, 30 Germany, 1 Japan, 6 Norway; total, 312 tons. Refined cotton oil, 10s. per ton lower; 21s. 1½d. spot; December-April, 21s. 3d.; casks £1., and barrels £1. 10s. per ton extra. Exports:—10 tons Austria, 188 Belgium, 4 Denmark, 168 France, 82 Germany, 122 Holland, 4 Italy, 1 Norway, 24 Sweden; total, 603 tons. Linseed prices have raised a good deal during the week, but close at about last week's prices. Cottonseed declined about 2s. 6d., with fair business passing. Turpentine, 36s. 3d., spot. Rosins lower; about 9s. 6d. for lower grade. Russian turpentine, 19s. 3d.

CAKES.—Linseed quiet, but steady. Cotton cakes moving fairly on contracts; new business slow.

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TYNE CHEMICAL REPORT.

TUESDAY.

Market steady, but prices unchanged. Caustic soda is in steady request, at £10. 5s. per ton for 70%, and £11. per ton for 76-77%. Bleaching powder firm, at £5. to £5. 5s. per ton. Soda crystals quiet, at £3. to £3. 2s. 6d. per ton, gross weights, locally. Sulphur in demand, at £5. to £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market is still active, and prices firmly held for prompt. Coke is dull, and in lessened demand. Quotations for current shipment:—Best Northumbrian steam, 15s. to 15s. 6d. per ton; second qualities, 14s. to 14s. 6d. per ton; small steam, 8s. 6d. to 10s. per ton; best gas coals, 15s. to 15s. 6d. per ton; Durham bunker coals, 12s. 6d. to 13s. per ton; coking coals, 12s. to 12s. 6d. per ton; household coals, 16s. to 17s. per ton; foundry coke, 19s. to 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

Although supplies of cotton are more assured for the time being, this does not seem to help the calico printers much, most of them still being on short time; scarcity of orders is really the trouble. The cotton dyers have improved a little, though still not at all in full work. Colour chemicals and drysalteries generally retain the easier feeling prevailing of late, but without any specific breakdown in values. In the ordinary chemicals the feeling is also to the quieter side, more particularly as regards forward business, and prices are the least shade easier. This is also the case with sulphate of ammonia, prompt, f.o.b. Leith, and while one or two of the makers are in a position to hold for £12. 5s., others are offering at something below that. Although the season's whaling was a failure, mineral oils govern the general market, and whale oils are not at all stiffer, say, now, 17s. 6d. to 24s., black to pale.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¾d. to 3d., naked, f.a.s. Glasgow; nitrate of soda 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 6¾d.; ordinary sorts, 6½d. and 6¼d. (new season's contract prices), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 2s. 6d. to £12. 3s. 9d, prompt, f.o.b. Leith; sulphate of copper, £22. to £23., less 5% Liverpool, prompt.

New Companies.

Atlas Portland Cement Co., Ltd.—Capital £12,000., in £1 shares (7,000 5% preferred and 5,000 deferred). This company has been formed to take over the business of cement and paving manufacturers, carried on at Canal Side, Neath, as the Atlas Portland Cement Co., and to adopt an agreement between J. Williams of the first part, R. Williams, Beatrice A. Williams, and Alice E. Williams of the second part, and T. A. Flynn of the third part. No initial public issue. The first directors are A. H. Davis and A. Williams. The holders of the preferred shares may appoint three directors, and the deferred shares two directors. Qualification, £100.

British Guiana Balata Co., Ltd.—Capital £20,000., in £1. shares (10,000 preference). This company has been formed to acquire and work certain licences for the collection of balata, indiarubber, and like substances in British Guiana or elsewhere, to adopt an agreement with the Cuyuni River Exploration Syndicate, Ltd., and the Georgetown Rubber Syndicate, Ltd., and to carry on the business of planters and cultivators of and dealers in rubber, gutta percha, and gums of all kinds. No initial public issue. The first directors are L. T. Boustead and D. J. L. Anderson. Qualification, £200. Remuneration, £50. each per annum (chairman £75.). Registered office, 30, Mincing-lane, E.C.

H. B. Oil Co., Ltd.—Capital £5,000., in £1. shares. This company has been formed to carry on the business of oil and general merchants, storekeepers, grease manufacturers, refiners and brokers, etc. No initial public issue. The first directors are J. R. Hanson and J. W. Brown (managing directors), with power to appoint one other director. Qualification, £100. Registered office, 2, Exchange Place, Middlesbrough.

Irish Manufactures, Ltd.—Registered in Dublin. Capital £75,000., in £1. shares. This company has been formed to establish and work a paint and varnish factory in Ireland, to establish and develop other manufactures for which a demand exists and which have in times past flourished in Ireland, etc. The subscribers are to appoint the first directors. Qualification, 100 shares. Remuneration, 10% of the profits available for distribution. Registered office, Trinity Chambers, 40, Dame-st., Dublin.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls. or Glns.	Gallons.	Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	Hf. pps.	Half pipes.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hhds.	Hogsheads.	Rnlts.	Runlets.	Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.	
Bgs.	Bags.	Chts.	Chests.	Kgs.	Kegs.	Sks.	Sacks.		
Btls.	Bottles.	Cylds.	Cylinders.	Ozs.	Ounces.	Slbs.	Slabs.		
Bdls.	Bundles.	Dms.	Drums.	Pks.	Packages.	Tcs.	Tierces.		
Bskts.	Baskets.	Djns.	Demijohns.	Pns Puns.	Puncheons.	t. c.	Tons, Cwts.		
Bxs.	Boxes.	Frkns	Firkins.						

LONDON.

Week ending November 21.

Acetic Acid—

Belgium,	35 cks.	Petri Bros.
Holland,	20 cks.	H. Lorenz
,,	3 cs.	T. H. Lee
,,	60 pks.	R. W. Greeff
,,	31 cbys.	& Co.
Germany,	55 cbys.	Brummerstaedt & Co.
Holland,	21 cks.	W. H. Muller & Co.
Holland,	12 cks.	Van Dam & Co.
,,	50 cbys.	Little
	8 brls.	& Johnston

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Acetone—
Germany, £90 Pickfords, Ld.
,, 43 T. H. Lee

Albumen—
Portugal, £14 F. Horne & Co.
France, 52 Leach & Co.

Alum—
Belgium, 10 cks. A. H. Gilbert & Co.

Alumina Sulphate—
Holland, £300 E. Lloyd
,, 40 Little & Johnston
,, 430 Ohlenschlager Bros.

Ammonium Muriate—
Holland, £399 A. & M. Zimmermann

Antimony Ore—
Brisbane, 45 t. Major & Field
Germany, 25 H. Grey, junr.
Belgium, 2 G. S. N. Co.

Argo's—
Italy, 18 cks. Thames
85 bgs. S. T. & L. Co.

Arsenic—
France, £112 J. Owen
Portugal, 540 Coverley & Westray

Asbestos—
Canada, 13 t. 7 c. Lunham & Moore

Barium Chloride—
Holland, £40 London & Rhine S. Office

Barytes—
Holland, 12 cks. Ostermann & Co.
,, 68 C. G. Francis
,, 46 W. Harrison
,, 200 bgs. & Co.
,, 58 cks. J. Greig
,, 23 Taylor Bros.
Belgium, 100 bgs. ,,
,, 100 W. Harrison & Co.
,, 40 G. C. Blackwell & Co.
Germany, 24 cks. W. Harrison & Co.
Holland, 52 J. L. Lyon
,, 37 Felton & Crepin
Belgium, 600 bgs. W Harrison & Co.
,, 12 cks. B. & F. Wf. Co.

Basic Slag—
Belgium, 50 t. J. Burstall & Co.

Bleaching Powder—
Germany, 7 t. J. M. Steel & Co.

Bone Meal—
E. Indies, 58 t. Hollinghurst & Co.
,, 100 Hunter, Lomer & Co.

Bog Ore—
Belgium, 430 t. W. M. Hawkins & Co.
,, 9 Thames S. T. & L. Co.

Bromine—
Germany, 60 cs. A. & M. Zimmermann

Calcium Carbide—
Norway, 50 t. Soc. Com. du Carb de C.
France, 3 Beeriot, Ld.

Calcium Chloride—
Holland, £25 London & Rhine S. Office

Camphor—
Japan, 5 cs. R. Warner & Co.

Caoutchouc—
Aden, 2 t. 2 c. Props. Bull Wf.
Holland, 19 L. & I. D. Jt. Co.
Aden, 7
Ceylon, 1 Prop. Hay's Wf.
,, 5 Lawrence, Boustead & Co.
,, 4 Hoare, Wilson & Co.
E. Indies, 13 10 Props. Bull Wf.
Ceylon, 12 R. G. Hall & Co.
,, 1 Lyall, Anderson & Co.
,, 6 Shand, Haldane & Co.
,, 14 M. P. Evans

Caoutchouc—
Germany, 2 t. 2 c. Major & Field
Straits, 13 L. & I. D. Jt. Co.
,, 16 8 Boustead & Co.
,, 9 10 Prop. Hay's Wf.
,, 13 Shand, Haldane & Co.
Ceylon, 16 L. & I. D. Jt. Co.
,, 7 R. G. Hall & Co.
,, 9 S. Figgis & Co.
,, 3 Prop. Hay's Wf.
Germany, 1 L. & I. D. Jt. Co.
France, 1 Baxter, Hoare & Co.
Straits, 4 6 L. & I. D. Jt. Co.
,, 8 Prop. Hay's Wf.
,, 1 1 Rowe, White & Co.
,, 12 10 Props. Bull Wf.
,, 3 12 Litchfield & Soundy
Ceylon, 8 7 L. & I. D. Jt. Co.
Straits, 3 18 Lewis & Peat
,, 1 5 M. P. Evans & Co.
,, 7 Butler's Wf.
,, 9 S. Figgis & Co.
Ceylon, 6 J.A. Haddon & Co.
,, 1 Litchfield & Soundy

Carbon Black—
U.S.A., 100 cs. L. & I. D. Jt. Co.

Castor Oil—
France, 10 pps. L. & I. D. Jt. Co.
,, 12 cs. Lucas & Spencer's Wf.
U.S.A., 50 brls. Union Ltge Co.
France, 15 Mordaunt Bros.
E. Indies, 16 dms. Perkins & Homer
France, 10 brls. Allen & Hanbury
,, 4 cks. Litchfield
,, 23 cs. & Soundy

Caustic Potash—
Germany, 65 dms. J. M. Steel & Co.
,, 2 cs. Argo S.S. Co.

Chemicals (*otherwise undescribed*)
U.S.A., £1,500 R.W. Greeff & Co.
Germany, 785
,, 7 H. Lorenz
,, 7 R. Herrmann
,, 935 N. & R. Collyer
,, 95 A. & M. Zimmermann
Holland, 40 W. Smith
,, 509 W. H. Muller & Co.
Germany, 1,287 T. H. Lee
,, 104 Argo S.S. Co.
Holland, 17 Zumbeck & Co.
,, 15 Van Dam & Co.
Germany, 11 Prop. Hay's Wf.
,, 15 Argo S.S. Co.
Belgium, 6 Leach & Co.
Norway, 273 W. Smith
E. Indies, 5 Montgomerie & Workman

Citric Acid—
Germany, 20 kgs. B. & F. Wf. Co.

Coal Products (*otherwise undcs.*)—
Denmark, £44 V. Dasnieres

Coal Products—
Aniline
Germany, 20 pks. L. & I. D. Jt. Co.
Belgium, 55 J. Cockerill Line
Carbolic Acid
Canada, 57 dms. Furness, Withy & Co.
Tar
N. Russia, 27 brls. P. J. Danischewsky

Colours—
France, 4 cs. Dalton & Young
U.S.A., 70 L. & I. D. Jt. Co.
Germany, 4 Prop. Hay's Wf.
,, 4 cks. British Anti-Flg. Co.
,, 7 pks. Argo S.S. Co.
Holland, 1 ck. London & Rhine S. Office
France, 7 cs. L. & I. D. Jt. Co.
Germany, 78 pks. 6 cs. Argo
,, 2 cks. S.S. Co.
Belgium, 651 pks.
,, 2 cks. Lyon & Co.
Germany, 2 T. H. Lee
Holland, 6 pks. S.E. C. Rly.
Germany, 5 pks. Prop.
,, 5 kgs. Hay's Wf.
Norway, 8 bxs. F. Dessen & Co.
Belgium, 664 pks. 1 J. Cockerill Line
Germany, 11 11 L. & I. D.
,, 152 cks. Jt. Co.
Holland, 2 7 Atkins & Nisbet

Colours (Earth)—
Holland, 26 cks. London & Rhine S. Office
,, 1 Van Dam & Co.
Italy, 14 Duggan, Noel & Co.
,, 3 brls. Barr, Boering & Co.
Holland, 10 cks. C. S. Lovell & Sons
,, 174 pks. Muller & Co.
,, 7
,, 4 cks. Van Dam & Co.

Copper Ore—
Queensland, 47 t. G. Smith & Sons
,, 23 J. W. Cook & Co.
,, 35 Brandeis, Goldschmidt & Co.
,, 20 Hoare, Wilson & Co.
,, 17 Vivian, Younger & Co.
Hong Kong, 41 H. Grey, junr.
N.S.W., 120 Union Ltge. Co.
,, 47 Ldn. Welsh S.S. Co.

Cottonseed Oil—
U.S.A., 600 brls. L. & I. D. Jt. Co.

Cream of Tartar—
Holland, 27 cks. A. & M. Zimmermann
France, 5 F. C. Devon&Co.
,, 10 B. &F. Wf. Co.
,, 3 kgs. ,,

Dextrine—
Holland, 3 t. 10 c. J. Barber & Co.
Germany, 5 L. & I. D. Jt. Co.
,, 10 Bennett Hge Co.

Dyestuffs—
Annatto
France, 1 ck. Van Geelkerken & Co.
Argols
Spain, 58 cks. B. Jacob
,, 420 bgs. & Sons
Chestnut Extract
France, 18 brls. Beresford & Co.
Cutch
Holland, 540 cs. Baxter, Hoare & Co.
Straits, 294 bxs. H Grey,
,, 150 bgs. junr.
Gambier
Straits, 161 bgs. Dalton & Young
,, 168 L. & I. D. Jt. Co.
Indigo
Ceylon, 6 cs. L. & I. D. Jt. Co.
Myrabolans
E. Indies, 301 bgs. Props. Bull Wf.
,, 340 Hoare, Wilson & Co.
,, 2,696 E. J. Winser
,, 1,952 pkts. & Co.
Quebracho
Arg. Rep., 400 bgs. Humphreys & Co.
Sumac
Italy, 100 bgs. H. Johnson, Sons & Co.

Dyestuffs—
Tanners' Bark
Natal, 15 t. Union Ltge. Co.
,, 47 C. S. Lovell & Sons
,, 212 Bullard, King & Co.
,, 20 Hoare, Wilson & Co.
,, 63 G. R. Haller
,, 15 Sollas & Sons
,, 19 Boutcher, Mortimore & Co.
,, 13 Bullard, King & Co.
Tannin Extract
France, 64 cks. F. Claydon & Co.
,, 50 H. Johnson, Sons & Co.
Valonia
A. Turkey, 50 t. Adams Bros.

Farina—
Germany, £40 A. E. Mallaindan
Holland, 5 t. J. Barber & Co.
,, 5 Henderson& Craig

Formaldehyde—
Holland, £120 R. W. Greeff & Co.
Germany, 40 M. Dk. Co.

Glanz Gold—
Belgium, £170 J. Cockerill Line

Glue—
France, £28 J. Harrison
,, 320 Bennett S.S. Co.
,, 41 G. T. Symons & Co.
Belgium, 12
,, 15 O. Murray & Co.
France, 9 Europ. Exp. Co.
A.-Hung., 500 J. Harrison
Germany, 12 H. C. Staples
,, 78 L. & I. D. Jt. Co.
Holland, 140 Van Dam & Co.
Belgium, 844 T. M. Duche & Sons
N. Russia, 375 Ihlee & Sankey
U.S.A., £144 H. Johnson, Sons & Co.
Belgium, 154 Leach & Co.
,, 34 D. C. Thomas & Co.
Holland, 155 London & Rhine S. Office
France, 132 Murray & Co.
,, 15 Mory & Co.
U.S.A., 200 W. Davis
A.-Hung., 135 Prockler & Bevington
France, 140 L. & I. D. Jt. Co.
,, 210 J. Harrison
Belgium, B. & F. Wf. Co.

Glue Stock—
Queensland, 2 t. 19 c. Goad, Rigg & Co.

Glycerine—
Holland, £300 Barker & Co

Gold Ore—
Natal, 1,800 t. Maritime Litharge Co.

Kainit—
Germany, 175 t. F. W. Berk & Co.
,, 340 Odams Manure & Chemical Co.

Lactic Acid—
Germany, 9 cks. Tennant's Wf.

Lamp Black—
Sweden, 40 cs. Burrell & Co.
,, 20 brls. Phillipps & Graves

Lead Acetate—
Holland, £69 Van Dam & Co.

Lead Concentrates—
Victoria, 1,000 t. J. Harrison, Ld.

Lead Nitrate—
Italy, £65 L. & I. D. Jt. Co.

Linseed Oil—
Holland, 113 brls. N. Dixson
U.S.A., 5 Taylor Bros.
Holland, 80 Hopwood & Co.
,, 2 cks. W. H. Muller & Co.
,, 26 Randall Bros.

Lithopone—
Holland, 40 cks. Lyon & Co.
,, 40 Van Dam & Co.
,, 18 J. F. Lauderdale

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Lithopone—
Belgium, 20 cks. Lyon & Co.
Germany, 23 J. Barber & Co.
,, 140 Elkan & Co.
,, 100 A. Zumbeck & Co.

Magnesite—
Holland, £26 Barr, Moering & Co.
,, 26 Muller & Co.
,, 80 W. Dunz
,, 25 Dowgate Dk.

Manganesite—
Germany, £71 Argo S.S. Co.

Manure—
Arg. Rep., 100 t. Prod. Brokers Co.
Germany, 1 L. & I. D. Jt. Co.

Mineral White—
A.-Hung., £25 Union Ltge. Co.

Ochre—
Belgium, 20 cks. O'Hara & Hoare

Olive Oil—
Spain, 1 t. J. M. Otega
France, 3 10 c. F. Boehm
,, 60 gals. Nich.'s Whvs.
,, 35 L. & I. D. Jt. Co.
,, 16 Stockwell & Co.
,, 10 Litchfield & Soundy
,, 1 Prod. Brokers Co.
,, 4 L. & I. D. Jt. Co.
,, 1 108 Gill & Duffus
,, 192 L. & I. D. Jt. Co.
Italy, 186 Beck & Pollitzer

Paraffin Scale—
U.S.A., 305 t. Anglo-Am. Oil Co.

Paraffin Wax—
U.S.A., 77 t. 14 c. Anglo-American Oil Co.
Germany, 40 J. Owen

Phosphoric Acid—
Germany, 8 cs. L. & I. D. Jt. Co.

Plumbago—
Ceylon, 38 brls. G. R. Haller & Co.
U.S.A., 64 pks. Woollett, Airey & Co.
E. Indies, 503 brls. Thredder, Son & Co.
Germany, 25 cks. B. Gallaway
Ceylon, 116 brls. Branwell & Co.
,, 304 Thredder, Son & Co.
,, 72 Montgomerie & Workman

Potash—
France, £47 P. Hecker & Co.

Potassium Carbonate—
Germany, 15 cks. J. Barber & Co.
,, 19 Spies Bros.
Belgium, 11 Charles & Fox

Potassium Chlorate—
Germany, 100 kgs. H. G. Thomas
Sweden, 150 G. Boor & Co.
,, 24 cs. ,,

Potassium Cyanide—
Germany, £38 Argo S.S. Co.

Potassium Permanganate—
Germany, 30 kgs. J & M. Steel & Co.
,, 20 cks. Craven & Co.

Potassium Prussiate—
Belgium, 5 cks. J. Harrison

Potassium Silicate—
Holland, £47 Spies, Bros. & Co.

Potassium Sulphate—
Germany, 100 bgs. Bessler, Waechter & Co.

Pyrogallic Acid—
Holland, 4 cs. W. H. Muller & Co.

Red Lead—
Germany, 94 cks. Randall Brs.
,, 64 J. D. Budd
Holland, 17 F. T. H. Nye
,, 18 J. D. Budd
,, 4 Muller & Co.
,, 40 Felton & Crepin

Ripolin—
Holland, 15 cks. Phillipps & Graves
,, 14 pks. ,,
,, 68 cs. ,,

Rosin—
U.S.A., 1,400 brls. Prod. Brokers Co.

Salt (Waste)—
Germany, 45 t. Perkins & Homer

Saltpetre—
Germany, 30 t. P. Hecker & Co.
,, 10 5 c. ,,
E. Indies, 272 5 Lucas & Spencer's Wf.
Holland, 10 P. Hecker & Co.

Saltpetre Salt—
Germany, 50 t. F. W. Berk & Co.

Soap—
U.S.A., £806 W. Davis
Italy, 45 Anderson, Tulloch & Co.
France, 45 Mory & Co.
,, 32 Beresford & Co.
Italy, 16 Nicholson's Wvs.
,, 150 Phillipps & Horne
U.S.A., 14 Lunham & Moore
Italy, 85 Pronk, Davis & Co.
France, 60 Tennant's Wf.
U.S.A., 320 American Ex. Co.
Holland, 66 W. H. Muller & Co.
U.S.A., 57 Field & Co.
,, 415 W. Davis

Soap Powder—
Germany, £187 London & Rhine S. Office
Holland, 9 W. H. Muller & Co.

Soda—
Germany, 7 c. A. & M. Zimmermann
Holland, 10 t. London & Rhine S. Office
Germany, 17 T. H. Lee
Holland, 5 J. M. Steel & Co.
,, 5 16 Muller & Co.
Germany, 5 J. M. Steel & Co.
,, 10 Zimmermann & Co.

Soda Crystals—
Holland, 10 t. W. H. Muller & Co.

Sodium Acetate—
France, 10 t. J. Harrison

Sodium Bicarbonate—
Belgium, 10 t. F.W. McKenzie

Starch—
Holland, £290 W. H. Muller & Co.
,, 100 Skilbeck Bros.
,, 30 Little & Johnston
,, 9 3 Starck&Co.
,, 8 J. Barber & Co.
Belgium, 8 5 E. & T. Pink
,, 6 12 J. Harrison & Co.
,, 4 G. W. Sheldon
France, 1 Skilbeck Bros.
,, 2 Kay & Mayo
,, 8 17 E. & T. Pink

Sulphur—
Italy, 50 t. J. Forsey & Co.

Sulphur Chloride—
Germany, £63 Typke & King

Talc—
A.-Hung., £68 Cachutt & Co.

Tallow—
Queensland, 139 cks. Goad, Rigg & Co.
,, 88 Sanderson, Murray & Co.
Victoria, 200 Hill & Sons
N.S.W., 156 J. Owen
,, 58 Phillipps & Graves
,, 33 Hill & Sons
Queensland, 12 Yuill & Co.
Germany, 6 bgs. Kimpff & Eckenstein

Tartar—
Italy, £1,070 J. W. Cook
,, 591 Fellows, Morton & Co.

Tartaric Acid—
Holland, 5 cks. Van Dam & Co.

Thorium Nitrate—
Germany, £135 T. H. Lee

Tin Ore—
N. Russia, 1 t. Sutton & Co.
N.S.W., 2 Hoare, Wilson & Co.
Pt. E. Africa, 14 Bullard, King & Co.
Natal, 44 ,,

Turpentine—
France, 100 brls. J. Watt & Son
N. Russia, 52 Linck, Moeller & Co.
U.S.A., 400 Prod. Brokers Co.
,, 2,450 Goodlake & Nutter
,, 300 London Oil S. Co.
N. Russia, 104 ,,
,, 103 Mordaunt Bros.

Ultramarine—
Holland, 5 cs. Muller & Co.
Germany, 20 Argo S.S. Co.
Belgium, 14 brls. Leach & Co.
,, 11 cks. Zetterquist & Hardy

Wax—
U.S.A., 1 brl. Brandon & Co.
Germany, 63 bgs.
,, 1 Wilkins, Campbell & Co.
Morocco, 18 Forwood, Bros. & Co.
Aden, 3 L. & I. D. Jt. Co.
Germany, 11 ,,
,, 12 P. J. Johnson
Victoria, 3 Brookes & Co.
Holland, 20 London & Rhine
,, 100 cs. S. Office
Germany, 100 ,,
E. Indies, 48 pks. Clarke & Smith
Germany, 1 cs. Prop. Hay's Wf.
Holland, 4 pks. W. H. Muller & Co.
Gibraltar, 5 4 bgs. Leach & Co.
Germany, 20 200 T. H. Lee
,, 32 cs. 40 brls. ,,
Japan, 49 H. Grey, junr.
Belgium, 9 D. C. Thomas
,, 2 pks. & Son
Germany, 27 bgs. L. & I. D.
,, 2 cs. Jt. Co.
,, 2 bgs. Wilkins & Co.
Egypt, 169 pks. Gillespie, Bros. & Co.

White Lead—
Holland, 18 cks. Peckins & Homer
A.-Hung., 10 cs. Grosscurth & Co.
Holland, 140 cks. Spies Bros.
A.-Hung., 20 brls. Barr, Moering & Co.
Belgium, 48 cks. G. Farmiloe & Sons
,, 4 J. Lyon & Co.

Wolfram Ore—
Melbourne, 1 t. Hoare, Wilson & Co.
N.S.W., 2 ,,

Zinc Ore—
U.S.A., 15 t. Union Lgt. Co.
China, 2 L. & I. D. Jt. Co.
Queensland, 5 Major & Field

Zinc Oxide—
Holland, 40 cks. M. Ashby, Ld.
,, 192 brls. ,,
U.S.A., 400 ,,
Germany, 35 cks. M. Dk. Co.
,, 200 Litchfield & Soundy

Zinc White—
Holland, 6 pks. F. T. H. Nye
,, 150 cks. Spies, Bros. & Co.
,, 10 Muller & Co.

LIVERPOOL

Week ending November 23.

Albumen—
Rotterdam, 3

Alumite—
Canary Is., 10 t.
Sydney, 279

Argols—
Oporto, 296 cks.

Arsenic—
Oporto, 56 cks.

Asbestos—
Montreal, 560 pks.

Barium Sulphate—
Antwerp, 72 cks.

Barytes—
Antwerp, 64 cks.
Rotterdam, 24 370 bgs.

Beeswax—
Burutu, 22 cs. Niger Co., Ld.
Hamburg, 4 bls.

Bone Black—
Philadelphia, 50 brls.

Bones—
Coquimbo, 911 sks.
B. Ayres, 667 bgs.
Beyrout, 70 t.

Borate—
Rosario, 720 bgs.

Borate of Lime—
Mejillones, 15,000 bgs.
Callao, 6,396
Antofagasta, 5,426 Borax Consol., Ld.

Caoutchouc—
Havre, 23 cs.

Castor Oil—
Leghorn, 25 cs.
Marseilles, 85

Coal Products—
Pitch
Hamburg, 26 brls.

Colours (Earth)—
Rotterdam, 50 bgs.

Copper Ore—
Rosario, 655 bgs.
Bordeaux, 230 t.

Copper Precipitate—
Huelva, 61 t. United Alkali Co.

Cottonseed Oil—
New York, 25 brls.

Cream of Tartar—
Bordeaux, 30 cks.
Malaga, 8 brls.
Marseilles, 2

Dried Blood—
B. Ayres, 329 bgs.

Dyestuffs—
Annatto
Bordeaux, 10 cks.
Chestnut Extract
Genoa, 1,120 brls.
Leghorn, 115
Cutch
Rangoon, 350 bxs.
Logwood Extract
New York, 48 cks. R. M. S. P. Co.
Myrabolans
Bombay, 300 bgs. A. Salmon & Co.
,, 350 E. D. Sassoon & Co.
,, 690
Oak Extract
Fiume, 235 brls.
Bari, 50
Sumac
Palermo, 700 bgs. D. W. M'Carthy
,, 3,760
Tannin Extract
Marseilles, 20 cks. The Moss Co.
Bordeaux, 520 50 brls.
Ghent, 120
Palermo, 50
Turmeric
Bombay, 134 bls.

Farina—
Fiume, 150 bgs.

Glue—
Rotterdam, 10 bgs.
Sydney, 123 bls.
Marseilles, 10 cks. 80
Rouen, 31 Co-op. W'sale Soc.
Boston, 40 cs.
16 brls.
Philadelphia, 25

Glue Stock—
M. Video, 30 bls.

Iron Sulphate—
Antwerp, 13 cks. 1 bg.

Lithopone—
Rotterdam, 120 cks.

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Magnesite—
Rotterdam, 200 bgs.
Magnesite Ore—
Patras, 23 bgs.
Mineral White—
Bordeaux, 1,190 bgs.
Ochre—
Marseilles, 28 cks.
Olive Oil—
Smyrna, 50 brls.
Bordeaux, 164 cs.
Leghorn, 24 R. Brocklebank
,, 30 bxs.
Marseilles, 26 Pac. Steam Nav. Co.
Phosphate—
Antwerp, 600 bgs.
Phosphate Rock—
Brunswick, 1,457 t.
Savannah, 433
Phosphorus—
Montreal, 140 cs.
Potassium Prussiate—
Antwerp, 2 cks.
Pyrites—
Huelva, 89 t.
,, 3,366 United Alkali Co., Ld.
Red Lead—
Rotterdam, 27 cks.
Rosin—
Bordeaux, 191 cks.
Pasages, 300 brls. R. Levita & Co.
Brunswick, 1,350
Savannah, 800
Rubber—
New York, 3 brls.
Burutu, 69 cks. Niger Co.,
482 bgs. Ld.
,, 7 C. G. Bennett
Lagos, 2 pns H. B. W. Russell & Co.
,, 1 J. Holt & Co.
,, 2 W.B. M'Iver & Co
,, 2 cks. A. Miller, Bros. & Co.
C. Coast, 1 J. J. Fischer & Co.
,, 1 brl. H. B. W. Russell & Co.
Sekondi, 9 cks J. J. Fischer
1 bg. & Co.
,, 10 cks. African Assoc.
,, 7 J. P. Werner
,, 8 F. & A. Swanzy
,, 10 H. B. W. Russell & Co.
, 20
,, 3 Millers, Ld.
,, 9 bgs.
Pernambuco, 8
,, 108 brls.
Parnahyba, 3 cs.12
Antwerp, 9
Lisbon, 1,024 bgs.
Valparaiso, 140 bls.
Warri, 71 pks. J. Holt & Co.
,, 11 H. Bey & Co.
Lagos, 3 W. B. MacIver
,, 9 Paterson, Zochonis & Co.
,, 2 H. B. W. Russell
Lahou, 21 Cie Franc. & Co.
S. Leone, 1 ck. ,,
Conakry, 21 ,,
,, 7 Soc. Com. d l' Oust. Afn.
,, 15 J. J. Fischer&Co.
,, 2 J. Walker
,, 15 Paterson, Zochonis & Co.
,, 5 Union Afric. Co.
Boston, 3 cs. Davies & Co.
Hamburg, 94 pks. Turner & Co.
Mollendo, 67 bls. J. L. Barber & Co.
Saltpetre—
Hamburg, 56 pks.
Selenium—
Baltimore, 1 bx. Branders, Goldschmidt
Silico Manganese—
Bordeaux, 80 cks.
Soap—
N. York, 11 cs.
Bari, 554
Leghorn, 250
Marseilles, 23 P. S. Smith
,, 75
Soap—
Boston, [illegible]qty. 12 pks.
Genoa, 380 cs.
Naples, 20
Philadelphia, 4
Leghorn, 170
Soap Powder—
New York, 250 cs.
Soapstock—
Leghorn, 50 brls. Brown, Bros. & Co.
Soapstone—
Genoa, 100 bgs.
Soda—
Marseilles, 43 cks. W. Whittingham
Starch—
Flume, 100 bgs. / 200 cs.
Antwerp, 50
Rotterdam, 13
Philadelphia, 10 brls
Hamburg, 92
Ghent, 31 Fletcher & Co.
Stearine—
Antwerp, 113 bgs Fletcher & Co.
,, 50
Stearine (cottonseed)—
New York, 25 brls.
Sulphur—
Catania, 3,270 pks.
Tallow—
Wellington, 4 cks. Kay & Williamson
Sydney, 165 C. W. Socy.
,, 18 brls.
Pt Stanley, 305 cks. Falkland Islands Co.
,, 94 Spearing & Waldron
Portland, 5 trcs.
B Ayres, 556
Boston, 150
Rouen, 65 bgs. Co-op. W'sale Soc.
Philadelphia, 145
B Ayres, 817 cks.
Boston, 1 brl.
Galveston, 299 trcs.
Tartar Emetic—
Rouen, 4 cks. 3 dms.
Tartaric Acid—
Genoa. 4 brls.
Bari, 34
Tin Ore—
Burutu, 731 bgs. Niger Co., Ld.
Turpentine—
Savannah, 420 cks.
N. Orleans, 140 brls.
Ultramarine—
Rotterdam, 20 cks.
Valonia—
Smyrna, 569 bgs. Barry Bros.
,, 52 t.
,, 715 bgs.
,, 1,236
Wax—
Pernambuco, 94 bgs.
Philadelphia, 200 brls.
New York, 100
White Lead—
New York, 30 brls.
Rotterdam, 55 cks.
Zinc Oxide—
New York, 300 brls.
Antwerp, 100 bls.

MANCHESTER.

Week ending November 23.

Acetate of Lime—
New York, 301 kgs.
Acetic Acid—
Antwerp, 15 cbys.
Alcohol (Wood)—
Philadelphia, 35 brls.
Ammonia—
Philadelphia, 25 cylds.
Hamburg, 2 cks.
Barium Sulphate—
Antwerp, 100 bgs.
Barytes—
Treport, 25 cks.
Chemicals (*otherwise undescribed*)
Fredrikstad, 8 cks. [illegible]
Chemicals (*otherwise undescribed*)
Hamburg, 7 cks.
Rotterdam, 5 29 cs. 15 pks.
Chromic Acid—
Hamburg, 4 dms.
Coal Products—
Alizarine
Rotterdam, 3 cks.
Aniline Colours
Rouen, 50 cks.
Aniline Oil
Rotterdam, 4 dms.
Aniline Salts
Rotterdam, 81 cks.
Creosote Salts
Rotterdam, 15 cks.
Paranitraniline
Rotterdam, 5 cks.
Cobalt Oxide—
Rouen, 1 cs.
Colours—
Antwerp, 2 cks.
Hamburg, 2 5 cs.
Rotterdam, 1 629 pks.
Cottonseed Oil—
New York, 200 brls.
Dextrine—
Stettin, 218 bgs.
Dyestuffs—
Indigo
Rouen, 30 cs.
Indigo Paste
Rotterdam, 15 cks. / 35 brls.
Tannin
Antwerp, 20 cks.
Hamburg, 2
Farina—
Rotterdam, 2,974 bls.
Glucose—
New York, 960 brls.
Glue—
Antwerp, 57 bls.
Ghent, 10 bgs.
Rouen, 77 cks.
Rotterdam, 100 / 1 10 cs.
Treport, 7
Glue Stock—
Genoa, 40 bgs.
Hamburg, 90 bls.
Litharge—
Rouen, 10 cks.
Lithopone—
Rotterdam, 20 cks.
Magnesite—
Rotterdam, 188 bgs.
Manganese Ore—
Marmagoa, 5,700 t.
Mineral White—
Rotterdam, 10 bgs.
Muriatic Acid—
Rotterdam, 60 blns.
Nitric Acid—
Rotterdam, 35 blns.
Olive Oil—
Bordeaux, 48 brls.
Oxalic Acid—
Hamburg, 15 cks.
Paraffin Scale—
New York, 614 brls.
Paraffin Wax—
Philadelphia, 1,236 brls.
Petroleum Gas Oil—
Philadelphia, 39,852 gals.
Potash—
Treport, 25 cks.
Hamburg, 24
Potash Lye—
Hamburg, 25 dms.
Potassium Prussiate—
Hamburg, 13 cks.
Antwerp, 6
Red Lead—
Rotterdam, 33 cks.
Rosin—
New York, 500 brls.
Philadelphia, 950
Pasages, 1,509
Salt (Waste)—
Hamburg, 150 t.
Saltpetre—
Hamburg, 8 cks. 112 kgs.
Soap—
Genoa, 20 cs.
New York, 100 brls.
Philadelphia, 2,500 bxs.
Soap Powder—
Rotterdam, 10 bls.
Soapstone—
Genoa, 400 bgs.
Sodium Acetate—
Antwerp, 36 cks.
Sodium Arseniate—
Antwerp, 15 kgs.
Sodium Nitrite—
Rouen, 21 cks.
Rotterdam, 35
Sodium Phosphate—
Antwerp, 6 cks.
Starch—
Antwerp, 520 cs. / 10 bgs.
Ghent, 20 cs.
New York, 2,500 bgs.
Amsterdam 4 brls.
65 bgs.
Stearine—
Antwerp, 76 bgs.
Talc—
Leghorn, 202 bgs.
Tallow—
New York, 75 trcs.
Turpentine—
Philadelphia, 1 brl.
Ultramarine—
Rotterdam, 5 pks.5 cs.
Wax—
N. York, 10 cs. / 865 brls.
Zinc Dust—
Stettin, 14 cks.
Zinc Oxide—
Rotterdam, 64 brls.
Zinc White—
Rotterdam, 20 cks.

HULL.

Week ending November 23.

Asbestos—
Reval, 200 bgs.
Antwerp, 8 bls. Wilsons & N. E. R. S. Co.
Barytes—
Bremen, 20 cks.
Antwerp, 108 138 bgs.
Rotterdam, 92 Hull & N. S.S. Co
Harlingen, 200
Amsterdam, 130 Hull & N. S.S. Co.
Beeswax—
Hamburg, 12 cs. Wilsons & N. E. R. S. Co.
Calcium Carbide—
Christiania, 40 dms. Wilson, Sons & Co.
Drontheim, 595
Chemicals (*otherwise undescribed*)
Bremen, 4 cs. Veltmann & Co.
Rotterdam, 5 cks. Hull & N. S.S. Co.
Coal Products—
Alizarine
Rotterdam, 34 cks. Hull & N.
17 brls. S.S. Co.
Aniline
Rotterdam, 17 cks.6 brls. Hull
410 pks. & N. S.S. Co.
Carbolic Acid
Novorossisk, 2 dms.
Colours—
New York, 100 cs. Wilson, Sons & Co.
Hamburg, 6 Wilsons & N. E. R. S. Co.
Antwerp, 5ck.18 pks. ,,
Ghent, 24 brls.
Colours (Earth)—
Antwerp, 60 bgs.
Dyestuffs—
Indigo (Artificial)
Rotterdam, 25 cks. Hull & N. S.S. Co.
Indigo Paste
Rotterdam, 25 cks.
Myrabolans
Bombay, 6,548 bgs.

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Farina—
Antwerp, 40 brls. Wilsons & N. E. R. S. Co.
Harlingen, 50 bgs.
,, 50 Hull & N. S.S. Co.
Amsterdam, 130 ,,
Stettin, 100

Glue—
Stavanger, 40 bgs. Wilson, Sons & Co.
Antwerp, 20 Wilsons & N. E. R. S. Co.
Harlingen, 11 bls.

Glue Stock—
Stavanger, 7 bls. Wilson, Sons & Co.

Linseed Oil—
Rotterdam, 272 brls. Hull & N. S.S. Co.

Lithopone—
Amsterdam, 8 cks. Hull & N. S.S. Co.

Magnesia—
Amsterdam, 10 cs.

Ochre—
New York, 260 brls. Wilson, Sons & Co.

Oxalic Acid—
Christiania, 100 cks. Wilson, Sons & Co.
Hamburg, 12 brls.

Phosphate—
Dunkirk, 60 t.
Harlingen, 250

Plumbago—
New York, 11 brls. Wilson, Sons & Co.
Antwerp, 99

Potash—
Dunkirk, 4 dms. Wilsons & N. E. R. S. Co.
Bremen, 50 Wilson, Sons & Co.
Novorossisk, 317 brls.

Red Lead—
Rotterdam, 18 cks. Hull & N. S.S. Co.

Rosin—
New York, 500 brls.
Rotterdam, 6ck. 14cs. Hull & N. S.S. Co.

Salammoniac—
Rotterdam, 6 cks. Hull & N. S.S. Co.

Soda—
Rotterdam, 600 bgs. Hull & N. S.S. Co.
Ghent, 50

Starch—
Ghent, 11 cs. Wilsons & N. E. R. S. Co.
,, 59
Bremen, 912 Veltmann & Co.
Antwerp, 40 Wilsons & N. E. R. S. Co.
Harlingen, 70

Tin Oxide—
Rotterdam, 7 cks. Hull & N. S.S. Co.

Ultramarine—
Rotterdam, 28 cks. Hull & N. S.S. Co.

White Lead—
Ghent, 4 brls.
New York, 76
Rotterdam, 142 cks Hull & N. S.S. Co.
Amsterdam, 10 ,,

Zinc White—
Rotterdam, 15 cks Hull & N. S.S. Co.

GLASGOW.

Week ending November 28.

Acetic Acid—
Christiania, 10 brls.
Rotterdam, 31 blns.

Beeswax—
Hamburg, 5 cs.

Bleaching Powder—
Hamburg, 27 cks.

Castor Oil—
Marseilles, 37 brls.

Chemicals (*otherwise undescribed*)
Rotterdam, 7 cks. 13 pks. Rankine & Son

Citric Acid—
Bordeaux, 4 cks.

Coal Products—
Alizarine
Rotterdam, 22 brls. 48 pks. Rankine & Son
Aniline
Rotterdam, 23 cs. 67 pks. Rankine & Son
Aniline Salt
Rotterdam, 19 cks. Rankine & Son
Paranitraniline
Rotterdam, 20 cks.

Cobalt Ore—
Tchio, 395 t.

Colours—
Ghent, 4 cks.
Rotterdam, 1 cs. 162 pks.
Hamburg, 20

Colours (Earth)—
Rotterdam, 3 pks. Rankine & Son

Cream of Tartar—
Valencia, 30 brls.
Marseilles, 5 cks.

Dyestuffs—
Cutch
Rangoon, 650 bxs.
Indigo (Artificial)
Rotterdam, 1 brl.
Myrabolans
Bombay, 3,031 bgs.

Felspar—
Gothenburg, 100 kgs.

Fish Oil—
Yokohama, 1,775 cs.

Formic Acid—
Hamburg, 80 crbys.

Glucose—
New York, 300 brls.

Glue—
Rotterdam, 40 bls. 41 pks. Rankine & Son
,,
Hamburg, 80 bgs.

Linseed Oil—
Rotterdam, 56 brls. Rankine & Son
Amsterdam, 57

Lithopone—
Rotterdam, 2 cks. Rankine & Son

Magnesite—
Amsterdam, 30 bgs.

Nickel Ore—
Tchio, 2,750 t.

Oleine Oil—
Rotterdam, 2 cks.

Olive Oil—
Marseilles, 4 cks.
Leghorn, 2 150 bxs. 11 cs.

Oxalic Acid—
Hamburg, 7 cks.

Phosphate—
Ghent, 500 bgs.

Plumbago—
Genoa, 150 bgs.

Potash—
Montreal, 6 brls.
Hamburg, 40 cks. 50 dms.

Potassium Bi-oxalate—
Hamburg, 5 cks.

Potash Lye—
Hamburg, 50 dms.

Potassium Prussiate—
Hamburg, 3 cks.

Red Lead—
Rotterdam, 20 cks. Rankine & Son

Rosin—
N. Orleans, 721 brls.
Hamburg, 2 cks.

Salt (Waste)—
Hamburg, 50 t. 700 bgs. 216 cks.

Saltpetre—
Hamburg, 40 kgs.

Soap—
N. Orleans, 492 brls.
Genoa, 70 cs.
New York, 25 bxs. 100
,,

Soap Powder—
N. York, 1,000 bxs.

Soapstone—
Genoa, 150 bgs.

Soda Crystals—
Ghent, 400 bgs.

Starch—
Rotterdam, 250 cs. Rankine & Son
Amsterdam, 10 brls.
New York, 1,200 bgs.

Stearine—
Rotterdam, 65 bls. Rankine & Son
Antwerp, 190 bgs.

Sulphur—
N. Orleans, 471 bxs.

Sulphuric Acid—
Rotterdam, 200 dms.

Tartar—
Rotterdam, 8 cks. Rankine & Son

Ultramarine—
Rotterdam, 10 pks.

White Lead—
Rotterdam, 44 cks. Rankine & Son

Zinc Oxide—
New York, 150 brls.

Zinc White—
Rotterdam, 8 cks. Rankine & Son
Hamburg, 91

TYNE.

Week ending November 23.

Acetic Acid—
Rotterdam, 18 cks.

Alumina—
Rotterdam, 560 bgs.

Barytes—
Rotterdam, 44 cks. 300 bgs.

Bog Ore—
Antwerp, 300 t.

Coal Products—
Tar
Konigsberg, 40 t.

Colours—
Rotterdam, 6 cks.

Copper Ore—
Antwerp, 15 t.

Iron Ore—
Benisaf, 7,300 t. Dunford & Elliott
Bilbao, 2,600
Narvik, 2,989

Lead Ore—
Antwerp, 4 bgs.

Pyrites—
Trondhjem, 42 t.

Starch—
Antwerp, 92 cs.

Stearine—
Antwerp, 38 bgs.

Zinc Ashes—
Antwerp, 10 cs.

GOOLE.

Week ending November 2.

Chemicals (*otherwise undescribed*)
Amsterdam, 65 cks.
Antwerp, 76
Copenhagen, 5
Hamburg, 20 120 cs.

Coal Products (*otherwise undes.*)—
Boulogne, 71 cks. 1 cs.
Rotterdam, 4 btls.

Coal Products—
Pitch
Antwerp, 1,969 t.

Colours—
Antwerp, 1 cs.
Boulogne, 4 pks.
Dunkirk, 3
Ghent, 7 cks.
Hamburg, 1

Dyestuffs (*otherwise undescribed*)—
Antwerp, 1 ck.

Manure—
Dunkirk, 154 bgs.

GRIMSBY.

Week ending November 20.

Chemicals (*otherwise undescribed*)
Dieppe, 2 brls.
Halmstad, 10
Hamburg, 33
Helsingborg, 20 kgs.
Malmo, 10 cs.

Coal Products (*otherwise undes.*)—
Dieppe, 93 brls.

Manure—
Hamburg, 1,867 bgs.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending November 27.

Alcohol (Wood Spirit)—
Paris, 2,326 g.

Ammonia—

P. Arenas,	26 cylndrs.		£187
Malta,	2		24
Delagoa Bay,	25 cs.		60
Jamaica,	5		5
Fremantle,	12		18
Durban,	9		13

Ammonia—

Calcutta,	3 cks. 54		69
Callao,	45		36
B. Ayres,	10	5 dm.	21
Iquique,	30		27
Rosario,	10		16
Bombay,	3	20	62
Algoa Bay,	10	342 pks.	30
Hong Kong,	2		6
Rangoon,	2		6
Karachi,	3		9
Jamaica	2		6
Perth,	6		18

Ammonia (Anhydrous)—

Rio de Jan.,	2 cs.		£17
P. Sudan,	2 cylndrs.		7

Ammonia Carbonate—

Antwerp,	15 cks.		£39
Launceston,	4 cs.		6
Singapore,	6		26
Alexandria,		20 kgs.	28
Copenhagen,	7	8	23
Penang,	15		25
Paris,	6		16
Demerara,	12	3 pks.	22
Paysandu,	3		5

Ammonium Carbonate—

Bombay,	25 cs.		£69
Bordeaux,	10 cks.		30

Ammonium Chloride—

Melbourne,	50 cs.		£73

Ammonium Muriate—

Dusseldorf,	6 t.	2 c.	£144
Yokohama,	1		25

Ammonium Nitrate—

New York,	12 cks.		£102

Ammonium Sulphate—

Mauritius,	200 t.	1 c.	£2,472

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Ammonium Sulphate—

Kobe,	151 t.	1 c.	£1,790
Yokohama,	302	9	3,636

Antimony (Regulus)—

Hamburg,	6 t.	

Antimony Sulphide—

Sydney,	1 ck.	£9

Arsenic—

Kobe,	50 kgs.	£80

Basic Slag—

St. Michael's,	11 t.	8 c.	£63

Bisulphite of Lime—

Cape Town,	6 pks.		£7
Rotterdam,		10 brls.	8

Bleaching Powder—

Rio de Jan.,		11 c.	£5

Bone Ash—

Sarawak,		10 c.	£13

Bone Meal—

Hamburg,	65 t.		£325

Boracic Acid—

Smyrna,		8 c.	£22
Shanghai,		8	14

Borax—

Delagoa Bay,	1 t.		£38
Perth,	6	19 c.	223
Fremantle,		10	13
Durban,		6	5

Calcium Chloride—

P. Arenas,	6 t.	19 c.	£21
Nagasaki,	1		5

Carbon Bisulphide—

Trinidad,	10 dms.		£16
Durban,	5		8

Caustic Soda—

Rio de Jan.,		10 c.	£7
Zanzibar,	1 t.	10	15
E. London,	8	2	147

Chemicals (*otherwise undescribed*)

Amsterdam,		1 cs.	£19
Calais,	4 cks.		27
Con'nople,	3	3	29
Danzig,	3	2	14
Montreal,			4 pks. 5
Newcastle, N.S.W.,	50		48
Sydney,		200	188
Hamburg,	44	5	324
Rotterdam,	6		20 kgs. 24
Townsville,	75		85
Ostend,	1		27
Cologne,	20		18
Gibraltar,	3	8	29
Singapore,		5	10
Calcutta,	10	2	66
Malaga,	20		30
Bushire,		5	10
Ghent,	15		24
Bremen,		13	626
Venice,	4		12
Malta,		1	13
Havre,	1		31
P. Said,		2	12
Yokohama,		2	15
Karachi,		10	13
Bombay,	35 bgs.	95	124
Brussels,		5 pks.	12
Durban,		9	30
Mauritius,	2		9
Jamaica,	17 dms.	6	51

Citric Acid—

Durban,	10 kgs.		£16
Fremantle,		8 c.	74
Demerara,	1		5
Bombay,	2		16
B. Ayres,	5 t.		913
Antwerp,	2		19
Hamburg,	1	13	274
Taiping,	1		11
Danzig,	5		48

Coal Products

Alizarine

Bombay,	151 cks.		£823

Aniline

Singapore,	1 cs.		£7

Aniline Dye

Boulogne,	4 cks.		£13

Aniline Oil

Boston,	5 dms.		£150
Genoa,	5		150

Anthracene

Cologne,	300 cks.		£360

Carbolic Acid

Rotterdam,	80 cks.		£288
Bombay,	26		23
Amsterdam,	252		693
Philadelphia,	10		255
Boston,	11		73
Perth,	10 dms.		29

Creosote

Galveston,	809 t.		£1,578

Creosote Oil

M. Video,	60 dms.		£24

Coal Products

Naphtha

Ghent,		30 brls.	£52

Naphthaline

Shanghai,	11 cks.		£12

Pitch

Melbourne,	10 rnlts.		£23
Rangoon,	200 kgs.		71
Delagoa Bay,		20 dms.	8
Rotterdam,		1 brl.	3
Rouen,	57		143
Cette,	3,005 t.		4,503
Launceston,		4	5
Cette,	1,665		2,218

Tar

Delagoa B.,	50 dms.		26
Algoa Bay,		250 brls.	120
Batoum,	65		65
Sekondi,	40		7
Durban,	600		27
Adelaide,	25 cks.		14

Tar Oil

Rotterdam,	10 cks.		£14

Copper Sulphate—

Cologne,	5 t.		£150
Mannheim,	25		750
Algoa Bay,		4 c.	5
Paris,	20		600
Naples,	10		220
V. Cruz,	25	9	507
Delagoa Bay,		5	6

Cottonseed Oil—

Con'nople,	39 t.	16 c.	
Dedeagatch,	11	8	
Dunkirk,	4	6	
Hamburg,	1	13	
Marseilles,	92	7	
Oban,	9	3	
Rotterdam,	38	6	

Cream of Tartar—

Corinto,		2 c.	£10
Fremantle,		10	45
Durban,		12	51

Cyanide (*otherwise undescribed*)**—**

Melbourne,	6 t.		£452
New York,	2	9 c.	576
Delagoa B.,	9		752
Greymouth,	9		765

Disinfectants—

Algoa Bay,		2 cs.	£5
Beira,			1 pk. 5
Bombay,			100 dms. 6
Durban,		1	125 19
La Libertad,			25 2
Penang,			200 58
P. Darwin,			5 5
Singapore,			25 26
Lisbon,	4 cks.		98
Shanghai,	9		10 60
Smyrna,	1		15
Cologne,		15	265
Sydney,	3	5	50
Marseilles,	41		56
Quebec,		3	40
Danzig,	2		80
Trinidad,		4	6
Jamaica,			6 13
Shanghai,			200 45
Fremantle,		5	15
Perth,		5	40 kgs. 28
Calcutta,		8	30
Wellington,		15	42
Lyttelton,		11	11nk. 64
Melbourne,	16		33
H. Kong,	5		12
B. Ayres,	25		171
B. Blanca,		2	8
Malta,		1	8
Cologne,		5	88
Acajutla,			12 pk. 16
Rangoon,			30 kgs. 8

Fertiliser—

Bandaberg,	2		£53

Flouric Acid—

Melbourne,		2 cs.	£5

Glue—

Reval,	5 t.		

Glycerine—

St. Thomas,		3 c.	£14
Stettin,		16	46
Havana,		6	8
Sydney,		5	15
Karachi,	32 pks.		21
Algoa Bay,		1	5
Manila,		4	14
V. Cruz,		18	59
Ostend,		2	12
Durban,		13	41

Hydrogen Peroxide—

Sydney,		6 cs.	£19
Melbourne,		4	9

Lead Hyposulphite—

Sydney,	1 ck.		£15

Lead Nitrate—

Melbourne,	4 cks.		£34

Linseed Oil—

Aden,		6 c.	
Adelaide,	9 t.	5	
Azores,		14	
Bangkok,	5	10	
Barbadoes,	1	4	
Berbice,		12	
Bombay,	2	2	
Calais,		13	
Cologne,		10	
Fiji,	1	4	
Grenada,	2		
Hobart,	6		
Kobe,	2		
Launceston,	1		
Mauritius,	8	5	
Melbourne,	10		
Moji,	6		
Piraeus,	1	15	
P. Elizabeth,	2	4	
Rangoon,	4	1	
St. Kitts,		10	
Santos,	10	2	
Santiago,	3	19	
Singapore,	2	5	
Sydney,	9	10	
Yokohama,	2		
Casablanca,		10	
Christchurch,		14	
Durban,		16	
H. Kong,		11	
Mossel Bay,		13	
Perth,	1		
P. Alegre,	4	7	
P. Said,		14	
Rio de Jan.,	10	6	
St. Croix,		7	
Shanghai,	20	12	
Tampico,	2		
Trinidad,	1	4	
Tripoli,		7	

Manganese Bronze—

Bremen,	10 t.		

Manure—

Wellington,	50 t.		£165
Valencia,	15		142
Yokohama,	320		3,723
Kobe,	50	1 c.	400
Trequier,	115	3	820
Sandernean,	347	17	2,510
Lisbon,	7	18	48
Jersey,	5		13
Algoa Bay,	8	19	45
Brest,	510	4	3,345
Morlaix,	320	3	535
Bermuda,	5		35
Channel Is.,	8		75

Muriatic Acid—

Fremantle,		6 c.	£10

Nitric Acid—

Adelaide,		8 c.	£11
Fremantle,	1 t.	7	90
Rangoon,		12	18
Bombay,		2	60 cs. 96

Oleine—

Dunkirk,	23 t.	14 c.	

Phosphoric Acid—

Santiago,	8 cks.		£105
Sydney,		15 cs.	104

Phosphorus—

Bombay,		5 cs.	£34
Sydney,		17	113

Phosphorus (Amorphous)—

B. Ayres,		3 cs.	£18

Plumbago—

Piraeus,	1 t.	7 c.	
Rio de Jan.,	1	3	
Bombay,	3		

Potash—

New York,		4 c.	£22

Potassium Carbonate—

Melbourne,	1 t.	17 c.	£39
Seychelles,	1	2	22

Potassium Chlorate—

Sydney,	3 t.		£99
B. Ayres,		5 c.	12

Potassium Cyanide—

Penang,		2 cs.	£7
Fremantle,	4 t.		275

Potassium Iodide—

Oporto,		3 c.	£109
E. London,		1	23

Potassium Oxalate—

Boulogne,		1 c.	£19

Quinine—

Rangoon,	5,036 ozs.		
Riga,	4,130		
Tripoli,	450		

Quinine—

Bombay,	2,400 ozs.		
Calcutta,	7,000		

Salammoniac—

Amsterdam,		15 c.	£9
Wellington,	3 t.		86
Constanti'ple,	2	10	96
Bussorah,		10	19

Salicylic Acid—

Kobe,		10 cs.	£98

Salt—

Bombay,	2 t.		
St. Kitts,	4		

Saltcake—

Gothenburg,	14 t.		£21

Saltpetre—

Newcastle, N.S.W.	3 t.		£76
Sydney,	2	12 c.	68
Delagoa Bay,		5 kgs.	6
Melbourne,	2		53
Rio de Jan.,	10 cks.		13
Adelaide,		20 brls.	26

Salts of Lime—

Bombay,		1 cs.	£12

Sheep Dip—

Blenheim			5 dms.
	5 cks.		£15
Christchurch,	50	10 cs. 20	127
Delagoa Bay,		2	5
Durban,		10	20
Gisborne,		110 50	136
Nelson,		50	25
Oamaru,	15	50 5	128
Timaru,	30	60 5	133
Wanganui,		100	30
Wellington,		20 200	112

Silver Nitrate—

Adelaide,		1 cs.	£24

Soap—

Adelaide,		9 c.	
Antwerp,		13	
Barbadoes,		2	
Beira,		10	
Bombay,	6 t.	1	
Boulogne,	1	16	
Bremen,		14	
Brussels,		5	
Calcutta,		13	
C. Town,		5	
Chinde,	1	15	
Cochin,		1	
Demerara,		5	
Jamaica,		4	
Lisbon,		5	
Marseilles,		1	
Mauritius,		2	
Ostend,		6	
Penang,		13	
P. Elizabeth,	9	7	
Rotterdam,	2	16	
St. Helena,	2	9	
St. Petersburg,		4	
Stockholm,		3	
Trinidad,	1	7	
Wellington,	3	14	
Zanzibar,	5	19	
Antigua,		2	
Azores,		4	
Callao,		13	
C. Town,		8	
Channel Is.,	1	5	
Chittagong,		1	
Christchurch,		2	
Colombo,	3	12	
Constanti'ple,	1	10	
E. London,		3	
Fiji,		3	
Fremantle,		2	
Genoa,		1	
Gibraltar,		3	
Grenada,		3	
Hamburg,	2	4	
Karachi,		13	
Lyttelton,		2	
Malta,		3	
Manilla,		2	
Melbourne,		10	
Mollendo,		1	
Mombasa,	4	13	
M. Video,		5	
Montreal,		5	
Norrkoping,		1	
Palermo,		4	
Panama,		3	
Perth,		10	
P. Sudan,		1	
Rangoon,		10	
St. Kitts,		10	
Shanghai,	4	17	
Sydney,		8	
Toronto,		2	
Tokio,		10	
Valparaiso,		19	

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Soap Powder—
Antwerp, 2 t. 10 c.
Christchurch, 1

Soda Salts—
Bombay, 10 c. £87

Sodium Bicarbonate—
B. Ayres, 3 c. £14
Singapore, 4 8
Paramaribo, 16 7
Algoa Bay, 10 5
Fremantle, 10 7

Sodium Hyposulphite—
Melbourne, 3 t. 6 c. £24

Sodium Peroxide—
Adelaide, 1 c. £9

Sodium Prussiate—
Kobe, 2 t. 19 c. £146

Starch—
Beira, 7 c.
Channel Is., 11
Christchurch, 13
Delagoa Bay, 1 t. 2
Durban, 1
Gisborne, 13
Greymouth, 12
Jamaica, 9
Rangoon, 3
Santos, 8
Broome, 2
Chinde, 1
C. Town, 1 2
P. Elizabeth, 6

Sulphur—
Algoa Bay, a qty. 1 t. 5 c. £28
Philadelphia, 4 14 117
New York, 18 24

Sulphuric Acid—
Madras, 17 c. £8
Fremantle, 11 14
Paramaribo, 15 8
Karachi, 18 12
Channel Is., 18 10

Superphosphate—
Jersey, 105 t. 1 c. £251

Tallow—
Calcutta, 15 t. 16 c.
Marseilles, 43 13
Riga, 16 10
Rotterdam, 1 12
Brussels, 65 8
Hamburg, 22
Havre, 16 14
Paris, 14 8

Tannic Acid—
Mauritius, 4 c. £32

Tartaric Acid—
Durban, 9 c. £17
Fremantle, 1 t. 1 101
Singapore, 1 6
Paramaribo, 2 6
Malta, 1 6

Wax—
Riga, 5 c.

White Lead—
Adelaide, £204
Melbourne, 541
Perth, 54
Sydney, 336
Calcutta, 20
Durban, 354
P. Elizabeth, 60

Wolfram Ore—
Hamburg, 16 t.

Zinc Ashes—
Rotterdam, 51 t.

LIVERPOOL.

Period ending November 27.

Alkali (Salt Waste)—
Bombay, 4 t. 13 c. £70

Alum—
Shanghai, 1 brl. £1
Oporto, 12 t. 4 c. 63
Bahia, 1 6

Alum (Waste)—
Calcutta, 65 t. 9 c. £190

Alumina Sulphate—
Sydney, 24 t. 18 c. £125

Aluminous Sulphate—
Madras, 3 t. 18 c. £23

Ammonia—
Rio de Jan., 3 cs. £9
Valparaiso, 1 2
Demerara, 1 1
Panama, 1 1
Chinde, 2 c. 6

Ammonium Carbonate—
Rouen, 7 t. £212
Yokohama, 2 5 c. 78
Malaga, 8 14
Barcelona, 2 3 76
Durban, 3 5
Santos, 7 11
M. Video, 15 25
Venice, 3 10 122
Villagarcia, 19 32
Perth, 10 17
Naples, 1 28
New York, 6 5 219
Hiogo, 9 10 350

Ammonium Muriate—
P'delphia, 38 t. 6 c. £947
Marseilles, 19 23
Rouen, 1 11 34
Hamburg, 4 7 64
Perth, 1 24
Alexandria, 4 96
Gythion, 2 2
Salonica, 1 24
Volo, 19 23
Varna, 3 3
Bourgas, 15 18
Hamburg, 50 1 1,201
Antwerp, 1 4 29
Patras, 2 2
Gibralter, 10 12
Yokohama, 3 14 88
Genoa, 5 1 107
Baltimore, 48 8 1,172
New York, 11 2 266

Ammonium Sulphate—
Teneriffe, 1 t. 10 c. £19
Yokohama, 100 1,200
Baltimore, 30 378
Mauritius, 101 7 1,235
Las Palmas, 43 529
Teneriffe, 1 12
Demerara, 95 1,153
Sourabaya, 99 10 1,220
Alicante, 10 113
Patras, 6 73
Santos, 1 19 25
Nantes, 20 4 250
New York, 20 10 247
Coruuna, 1 12
Cartagena, 10 120
Valencia, 254 9 3,028
Sydney, 24 10 284
Venice, 3 10 122
Kobe, 100 1,214
Alicante, 45 540
St. John, N.B., 20 243

Arsenic—
Leghorn, 2 t. 10 c. £75
B. Ayres, 4 19 157

Asbestos—
Mollendo, 11 pks.

Basic Slag—
Corunna, 10 t. £15
Oporto, 39 10 c.

Bisulphate of Lime—
Algoa Bay, 16 c. £5

Bleaching Powder—
Bombay, 20 cs. 9 dms.
Ghent, 29 cks.
Piræus, 20 brls.
Portland, 84

Bone Meal—
New York, 50 t. 16 c. £496

Bones—
Rouen, 10 t. 12 c. £50

Boracic Acid—
Wellington, 4 t. 3 c. £114
Venice, 1 20
Genoa, 1 18

Borax—
Demerara, 1 brl. £2
Bahia Blanca, 1 2
Bombay, 8 t. 10 c. 136
Dunedin, 2 15 43
Wellington, 1 17
Victoria, B.C., 3 4
Bombay, 5 81
Arica, 1 brl. 3
Vigo, 2 kgs. 2

Calcium—
Halifax, 3 dms. £1

Calcium Carbonate—
New York, 9 t. 19 c. £111
Boston, 18 2 165

Calcium Chloride—
Natal, 3 t. 15 c. £9
Tocapilla, 1 11 3
Sydney, 32 19 93
Lisbon, 1 3
Rangoon, 15 19 39
Madras, 3 9
Calcutta, 5 6 12
Gutajewsky, 10 2 21
Copenhagen, 1 2

Calcium Sulphydrate—
Ghent, 10 t. 6 c. £43
Antwerp, 10 8 43

Carbolic Acid Gas—
Valparaiso, 24 tubes. £8
Calabar, 2 c. 18

Castor Oil—
Belize, 26 cs.

Caustic Potash—
Seville, 10 c. £15
Fremantle, 1 2

Caustic Soda—
Adelaide, 60 dms.
Barcelona, 70 cks. 50
Beyrout, 200
B. Ayres, 120
Calcutta, 40
Cape Town, 25
Cardenas, 100
Durban, 55 cs. 29
Fiume, 100
Fremant'e, 25
Gibraltar, 7
Kobe, 25
Padang, 50
Pasages, 56 10
P. Elizabeth, 161
Rangoon, 7
Rio de Jan., 200
Rotterdam, 5 brls.
Samarang, 20
Singapore, 75
Sourabaya, 32
Sydney, 18
Wellington, 35 cs. 29

Chemicals (*otherwise undescribed*)
B. Ayres, 239 dms. £8 6
Rio de Jan., 4 13
Sekondi, 23 cs.
3 t. 11 c. 306
Antwerp, 22 brls. 35
Bahia, 3 6
Boston, 59 kgs.
1 cs. 67
Fremantle, 20 27
Hamburg, 20 160
P. Colombia, 20 80
New York, 10 cks. 70
St. Johns, 5 21
Lyttelton, 10 27
Montreal, 21 2
10 kgs. 65
Odessa, 115 170
Trieste, 10 10 40
Rangoon, 20 32
St. Thomas, 5 4
V. Cruz., 10 8
Bombay, 58 52
Calcutta, 100
2,698 slabs. 328

China Clay—
Bombay, 40 cks.
Calcutta, 124

Coal Products—
Ammoniacal Liquor
Cape Town, 4 dms. £4
Aniline Colour
Barcelona, 3 kgs.
Boston, 16 cks.
Genoa, 31
New York, 38 pks.
Aniline Oil
Barcelona, 13 dms.
Aniline Salts
Bombay, 10 kgs.
Constantinople, 5 brls.
Syra, 8
Piræus, 1 t. 4 c.
Carbolic Acid
Halifax, 2 dms. £2
Carbolic Acid (Liquid)
Rotterdam, 2 t. 1 c. £34
Carbolic Acid (sol d)
Marseilles, 6 c. £15
Hamburg, 15 t. 1 704
Liban, 1 4 50
Calcutta, 2 cs. 38
Creosote
New York, 290 cks.
Creosote Oil
Oporto, 200 cks.
Pitch
Bilbao, 113 brls.
Calcutta, 202 dms.
P'delphia, 80 cks.
Tar
B. Ayres, 50 brls.

Colours—
Delagoa B., 12 kgs.
Demerara, 80 8 dms.

Copperas—
Tampico, 1 t. £3
Auckland, 5 c. 1
R.G.do Sul, 1 17 4
Havana, 12 1
Panama, 1 kg. 2

Copper Sulphate—
M. Video, 7 t. 5 c. £169
Catania, 5 115
Samarang, 4 7 98
Rouen, 4 18 96
Sourabaya, 11 16 250
Nantes, 4 19 100
V. Cruz, 25 1 613
Barcelona, 30 10 661
Trinidad, 2 3
Tamoico, 36 11 837
Algoa Bay, 3 3
Bahia, 10 12
Liban, 19 22
Gothenburg, 2 16 62
Hamburg, 10 11
Talcahuano, 7 17 189
Marseilles, 4 19 105
Rouen, 15 330
Melbourne, 19 436
Adelaide, 24 564
Sydney, 10 228
Bordeaux, 40 810

Cottonseed Oil—
Alexandria, 50 brls.
Algeria, 35
Wellington, 3

Cresylic Acid—
Dunkirk, 3 t. 16 c. £50

Disinfectants—
Halifax, 3 brls. 1 cs. £17
2 dms.
Malta, 3 10 58
Sekondi, 1 1
Dunedin, 2 3
Calcutta, 45 cks. 200 44
Cape Town, 5 13
P. Elizabeth, 13 c. 8
Gothenburg, 16 8
Barbadoes, 1 2
Belize, 2 15 3
Chinde, 12 5
St. Johns, 20 8
Rangoon, 1 t. 6 36 20
Bilbao, 30 pks. 9
Beira, 50 12
Hamburg, 30 15
Copenhagen, 300 bxs. 23
Madras, 40 bgs. 2 17

Dried Blood—
Teneriffe, 15 t. £114

Dyestuffs—
Tannin Extract
Copenhagen, 20 cks.
Havre, 5
Madras, 3

Ferro Chromate—
Lisbon, 1 kg. £2

Fertiliser—
Patras, 55 t. £250
Smyrna, 8 27
Wilmington, 200 4 c. 681

Glue—
Barcelona, 10 cks.
Calcutta, 6 cs.

Glycerine—
Constanza, 19 c. £49
Shanghai, 4 t. 17 252
Cape Town, 12 30
St. John's, N'fld., 23 14 1,200
Umballo, 5 17
Cape Town, 1 9 74
Stockholm, 19 16 868
Yokohama, 2 10 118
Barcelona, 10 28
Delagoa B., 48 2,400

Guano—
Seville, 9 t. 19 c. £78

Gypsum—
Algoa Bay, 2 brls. £5

Iron Oxide—
Alexandria, 24 brls.

Linseed Oil—
Assinee, 6 dms.
Belize, 12 brls.
Bombay, 100
Bourgas, 40
Cardenas, 50
Coquimbo, 50
Delagoa Bay, 3 cks.
Genoa, 5
Iquique, 100
Las Palmas, 3
Manaos, 65
Manzillo, 53 cs.
Iquitos, 7
Opobo, 10
Para, 2 brls.
Piræus, 6
Port Said, 3
San Jose de Guatemala, 20

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Magnesium (Calcined)—
Tampico, 2 c. £4
B. Ayres, 2 q. 4 lbs. 67
Magnesium Carbonate—
Barcelona, 2 t. 8 c. £43
Magnesium Chloride—
Smyrna, 1 t. £4
New York, 20 1 c. 54
Seville, 6 3 21
Magnesium Oxide—
New York, 1 t. £6
Manure—
Bordeaux, 2 t. 10 c. £20
Mercuric Oxide—
Cartagena, 1 cs. £17
Muriatic Acid—
Barbados, 2 cs. £1
Ochre—
Durban, 5 cks. 25 cs.
Oxalic Acid—
Manila, 1 ck. £3
Paraffin Wax—
Naples, 200 bgs.
Venice, 60
Phosphorus—
Tampico, 6 c. £45
Pasages, 10 60
Chinde, 1 cs. 7
Kobe, 2 t. 4 320
Potash—
Para, 10 c. £4
Potassium Bichromate—
Bombay, 5 t. 16 c. £182
Oporto, 1 3 36
Potassium Chlorate—
Santander, 10 c. £16
Yokohama, 11 t. 10 345
Santos, 10 15
Gothenburg, 5 17 176
Naples, 9 6 184
Genoa, 1 18 60
Venice, 19 30
Bari, 1 14 52
Ancona, 2 9 74
Pasages, 3 10 105
Odessa, 7 10 225
Panama, 1 2
Piræus, 9 14
Potassium Prussiate—
Rio de Jan., 10 c. £31
Alexandria, 2 7
Chinde, 1 frkn. 3
Salammoniac—
Santander, 4 c. £8
Tampico, 1 kg. 3
Mersyne, 8 20
Gythion, 3 1 brl. 12
Varna, 10 19
Karachi, 2 t. 90
Bombay, 2 8 96
Mitylene, 10 22
Smyrna, 17 40
New York, 15 30
Trieste, 1 40
S. John's, N.F., 14 28
Salt—
Amsterdam, 200 t.
Antwerp, 180
Barbadoes, 16 13 c.
Bombay, 5
B. Ayres, 31
Calabar, 14
Calcutta, 1,698
Cape Palmas, 15 10
Cape Town, 57
Christiania, 374 17
Conakry, 25 5
Duela, 87
Durban, 10 cs.
Ghent, 80
Hamburg, 20
Kingston, 12 10 c.
Livingston, 100
Manoka, 236 8
Portland, 75
Rotterdam, 400
St. Johns, 50
Salonica, 100
Sekondi, 16 14
S. Leone, 116
Stockholm, 35
Trinidad, 43 16
Wellington, 125
Saltpetre—
Para, 6 c. £8
Sheep Dip—
Stanley, F.I., 5 t. £150
P. Elizabeth, 12 10 c. 208
B. Ayres, 20 13 615
Belize, 6 6
Durban, 9 2 150
Natal, 8 150
Buenaventura, 2 cs. 5
Soap—
Antwerp, 132 bxs.
Bahia de Caraquez, 150
Bangkok, 400 10 cs.
Barbadoes, 500
Batavia, 1
Bathurst, 20
Beira, 50
Bombay, 900
Bonny, 884
Calabar, 560
Calcutta, 6
C. Town, 3,175 13 bdls.
Chinde, 100 46 cs.
Colon, 475
Delagoa B., 309 37 dms.
Dominica, 150
Gaboon, 50
Genoa, 20 pks.
H. Kong, 1,500
Karachi, 1,525
Kingston, 1,883
Kribi, 20
Lagos, 300
Limon, 3
Madagascar, 225
Madras, 65 6
Manaos, 100 5,284 bdls.
Martinique, 200
Menado, 250
New York, 2 cs.
Opobo, 600
Piræus, 26
P. Elizabeth, 200 35
Rangoon, 2,151
Rotterdam, 2,100
S. Thomas, 602
Samarang, 70
Sarawak, 20
Servia, 40
Shanghai, 6,849
Singapore, 1,500
Sourabaya, 130
Teneriffe, 336
Tientsin, 25
Trinidad, 915
Victoria, 46
Yokohama, 200
Soap Powder—
C. Town, 10 skl.-cs.
Soda Ash—
B. Ayres, 100 cks.
Calcutta, 1,000 bgs.
Bombay, 8 175 50 kgs.
Fremantle, 18
Gothenburg, 26 150
Kobe, 400
Para, 15
Perth, 12 40
Shanghai, 182
Soda Crystals—
Bombay, 50 kgs.
Cape Town, 150
Sodium Bicarbonate—
Bombay, 179 cks.
B. Ayres, 175 kgs.
Calcutta, 1,000
Cape Town, 20
Demerara, 30 brls.
Limon, 13 pks.
Malta, 10
Perth, 260
P. Elizabeth, 20
Sodium Borate—
Rotterdam, 5 t. £80
Sodium Silicate—
Barcelona, 219 brls.
Braila, 138 bxs.
Catania, 337
Corfu, 10
Manilla, 20
M. Video, 20
Piræus, 19
P. Alegre, 5
Salonica, 74
Sourabaya, 5
Wellington, 10 cks.
Sodium Sulphide—
Coronel, 10 t. 4 c. £71
Sulphur—
B. Blanca, 6 c. £2
Gothenburg, 75 t. 336
Cape Town, 14 8
Gothenburg, 125 565
E. London, 2 7 30
Natal, 4 3
Havana, 3 20
Sulphuric Acid—
Bahia, 8 c. £4
S. Leone, 2 3
E. London, 1 t. 10 17
Para, 1 2 14
Rio de Jan., 4 9 52
Havana, 60 gals. 19
Superphosphate—
Pt. Pirie 2,894 t. 18 c. £8,080
Teneriffe, 21 214
Corunna, 9 18 29
Bombay, 4 19 32
Tallow—
Bombay, 17 brls.
Braila, 39
Malmo, 5
Marseilles, 16 cks.
Stockholm, 15
Tin Crystal—
Bombay, 6 c. £28
Turpentine—
Assinee, 10 dms.
Cape Town, 70
Chinde, 5 cs.
Iquique, 60
Las Palmas, 10
Vaporite—
Cape Town, 17 c. £10
Venetian Red—
Bremen, 38 cks.
Zinc Muriate—
Adelaide, 5 c. £4
Ontario, 2 t. 16 37
Zinc Sulphide—
Toronto, 3 t. £59

MANCHESTER.

Week ending November 27.

Bone—
Treport, 120 bgs.
Calcium Sulphate—
Antwerp, 20 t. 17 c.
Gothenburg, 5 brls.
Caustic Soda—
Alexandria, 150 dms.
Chemicals (*otherwise undescribed*)
Bombay, 101 brls.
Bunder Abbas,
Bushire, 10
Hamburg, 1
St. John, N.B., 42 hf-trcs.
China Clay—
Philadelphia, 1,160 cks.
Coal Products—
Aniline Colour
Phila'phia, 1 brl. 1 kg.
Aniline Salt
Philadelphia, 10 cks.
Hamburg, 12 t.
Carbolic Acid
Rouen, 5 cks.
Creosote
Philadelphia, 80 cks.
Naphtha
Treport, 25 brls.
Naphthylamine
Germany, 73 cks.
Pitch
Naples, 119 t.
Cette, 405
Tar
Philadelphia, 3 cks.
Colours—
Boston, 27 cks.
Copperas—
Uere, 8 brls.
Copper Sulphate—
Mersyne, 5 brls.
Glue—
Rotterdam, 62 cks.
Boston, 3 1 cs.
Germany, 24
Linseed Oil—
Larnaca, 9 brls.
Tripoli, 10
Magnesia—
Beyrout, 20 cs.
Manure—
Treport, 22 bgs.
Oleine Oil—
Rotterdam, 6 cks.
Potassium Bichromate—
Cairo, 12 cks.
Salammoniac—
Bushire, 5 brls.
Salt—
Gothenburg, 151 t.
Boston, 1,200
Soap—
Ahwaz, 20 bxs.
Alexandria, 15 cs.
Bussorah, 1
Soda Ash—
Tripoli, 300 bgs.
Soda Crystals—
Bussorah, 1 ck.
Sodium Acetate—
Antwerp, 2 cks.
Sodium Bicarbonate—
Alexandria, 40 brls.
Sodium Naphtionate—
Switzerland, 9 cks.
Sodium Phosphate—
Treport, 5 cks.
Sodium Prussiate—
Philadelphia, 27 cks.
Sodium Silicate—
Monastir, 5 cks.
Stearine—
Rotterdam, 30 brls.
Zinc Chloride—
Bombay, 18 cks.

HULL.

Week ending November 23.

Ammonium Sulphate—
Dunkirk, 749 bgs.
Kobe, 1,434
Marseilles, 200
Yokohama, 2,507
Antimony—
New York, 375 cks.
Barytes—
Boston, 100 t. 10 c.
Bones—
Hamburg, 211 bgs.
Chemicals (*otherwise undescribed*)
Aalesund, 10 cks.
Abo, 10
Amsterdam, 10 10 cs.
Antwerp, 10 11
Bergen, 9
Boston, 250
Copenhagen, 40 1 25 brls. 50 bgs.
Christiania, 5 284 slbs.
Drontheim, 10
Danzig, 35 14 pks. 34 kgs.
G'henburg, 1 1,191 68 cs.
Hamburg, 167 29 3 dms.
Helsingfors, 2
Konigsberg, 18 30 kgs.
Libau, 20
Melbourne, 1
Marseilles, 50
New York, 35 585 bgs. 1
Norrkoping, 10
Rouen, 20 50 10
Singapore, 1 cs.
Stettin, 69
St. Petersburg, 10 pks.
St'ckholm, 14 500 bgs.
Zeebrugee, 15 dms.
Coal Products—
Pitch
Antwerp, 80 cs.
Marseilles, 200 t.
Tar
Antwerp, 10 cks.
Drontheim, 25
Hamburg, 10
Marseilles, 10
Rouen, 10
Cottonseed Oil—
Amsterdam, 22 t. 9 c.
Antwerp, 188 8
Bremen, 4 7
Christiansand, 4
Copenhagen, 4 6
Drontheim, 17
Dunkirk, 24 8
Danzig, 14 14
Fiume, 10 1
Gothenburg, 17 18
Hamburg, 58 6
Harlingen, 2 2
Konigsberg, 5
Marseilles, 118 12
Palermo, 4
Rouen, 24 11
Rotterdam, 97 13
Stockholm, 5 4

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Dyestuffs (*otherwise undescribed*)—
Amsterdam, 20 dms.
Antwerp, 35 cks.

Ferro Manganese—
Rotterdam, 50 t.

Glue—
Antwerp, 20 bgs.
Dunkirk, 1
Ghent, 2
Gothenburg, 100
Copenhagen, 10

Lamp Black—
Bremen, 50 cs.

Linseed Oil—
Adelaide, 13 t. 4 c.
Bremen, 24 7
Christiansand, 3 15
Copenhagen, 3 3
Drontheim, 1 15
Hamburg, 5 14
Melbourne, 109 3
Newcastle, 1 4
Sydney, 150 10
Stavanger, 3
Yokohama, 15

Manure—
Hamburg, 2,000 bgs.
Marseilles, 20
New York, 1,120
Dunkirk, 3,535
,, 235 t. 79 bls.

Phosphate—
Copenhagen, 50 t.

Soap—
Hamburg, 50 bxs.

Starch—
Drontheim, 40 cs.
Danzig, 50
Stockholm, 300

Stearine—
Rouen, 20 brls.

Tallow—
Christiania, 35 trcs.
Copenhagen, 10
Hamburg, 188 cks.
Wasa, 39
Marseilles, 35

Turpentine—
Amsterdam, 20 cks.
Bremen, 1
Christiansand, 2
Copenhagen, 15
Hamburg, 30
Kobe, 130 cs.
Newcastle, 25
Stockholm, 8
Sydney, 10 170
Yokohama, 20 dms.

Wax—
Marseilles, 60 bgs. / 21 cks. / 15 cs.

GLASGOW.

Week ending November 23.

Acetic Acid—
Lisbon, £20

Alum—
Christiania, 5 t.

Ammonium Carbonate—
Calcutta, 1 t.
Sweden, 30
Belgium, 1 7 c.

Ammonium Sulphate—
Norfolk, 185 t. 13 c.
Demerara, 607 4 3 q.
Lisbon, 19 10 1

Boiler Composition—
Bombay, 9 t. £34
Calcutta, 26

Bone Ash—
Portugal, 2 t. 10 c.

Bone Meal—
Jersey, 5 t.

Boracic Acid—
Rotterdam, 19 c. 2 q.

Castor Oil—
Demerara, 127 gals.

Caustic Soda—
Bombay, 7 t. 5 c.

Chemicals (*otherwise undescribed*)
Fremantle, £216
St. Johns, N'fld., £31 10s.
Bombay, £26
Wellington, 3 t.

Coal Products—
Creosote Oil
Christiania, 14 t. 14 c.
Pitch
Bombay, £40
Belgium, 221
India, a qty.
Tar
Calcutta, £407
Rangoon, 76 t. 1 c. 2 q.
India, a qty.
Karachi, 40
Christiania, 9 t. 4

Colours—
Madras, £21
Canada, 1 t. 10 c.
Valparaiso, a qty.

Copperas—
Bombay, £44

Dyestuffs (*otherwise undescribed*)—
Canada, 32 t. 1 c. 2 q.
New York, 5 10 3
Calcutta, 52
Lisbon, 23

Dyestuffs—
Sumac
Bombay, £30

Farina—
Italy, 9 t. 17 c.
C. Town, 1 13

Fish Oil—
Rotterdam, 13 t. 8 c.
Belgium, £592
Calcutta, 410

Gelatine—
Rangoon, 10 c. 3 q.

Glycerine—
Lisbon, £46

Gutta Percha—
Amsterdam, 13¼ lb.

Lead Acetate—
Bombay, 5 t.

Lead Nitrate—
Paris, 5 t. 4 c. 3 q.

Linseed Oil—
Barbadoes, 182½ gals.

Magnesium Sulphate—
Fremantle, 2 t. 12 c. 1 q.
Rouen, 8

Manure—
Jersey, 62 t. 3 c. 2 q.

Nitric Acid—
Portugal, £20
Madras, 71

Oleine—
Lisbon, £21

Olive Oil—
Bombay, £33

Paraffin (Solid)—
Italy, 17 t. 14 c. 1 q.
Amsterdam, 5 25 lb.
Rouen, 19 3
Portugal, 19 13 2

Paraffin Wax—
Bombay, 11,648 lb.
Bordeaux, 6 t. 13 c. 1 q.
Italy, 22 2 2
Nantes, 6 17 1
Malaga, 9 19
Paris, 1 19 3

Phosphate of Lime—
Canada, 1 t. 7 c. 2 q.

Potassium Bichromate—
Italy, 2 t. 1 q.
Lyttelton, 1 3 c. 2
Bombay, 2 7 3

Potassium Cyanide—
Japan, £137
Auckland, 32 t. 8 c.

Red Lead—
Calcutta, 3 t.
Rangoon, 5 7 c. 1 q.
Bombay, 2 10
Karachi, 1
Wellington, 1 2

Rosin—
Bombay, 24 cks.

Rosin Oil—
Calcutta, £40
Rotterdam, 2 t. 3 c.

Sheep Dip—
Bluff, 11 t. 13 c. 1 q.
B. Ayres, 4 17
S. Cruz, 6 12 2
P. Chalmers, 2 2

Soap—
Bombay, 4 t. 19 c. 3 q.
Rangoon, 1 11 3
Canada, 1 6 2
Diego Suarez, 2 3 2
H. Kong, 5
Calcutta, 1 18

Sodium Acetate—
Lisbon, 1 t. 15 c. 1 q.

Sodium Bichromate—
Italy, 4 t. 1 c. 1 q.
Rouen, 10 2 1
Bombay, 2 10

Sodium Cyanide—
Fremantle, £408
Marfil, 17 t.

Sodium Stannate—
Bombay, 6 c.

Starch—
Lisbon, £25

Sulphuric Acid—
Rangoon, 51 t. 16 c. 3 q.

Superphosphate—
Jersey, 508 t. 2 c.

Turpentine—
Trinidad, 4 c. 1 q. 18 lb.

White Lead—
Calcutta, 16 t. 3 q.
Dunedin, 1
Rangoon, 2 15 c. 1
Lyttelton, 1

Zinc Oxide—
Lisbon, 14 c. 3 q.

TYNE.

Week ending November 23.

Alumina—
Bergen, 30 t. 1 c. 16 lb.

Aluminium—
Bilbao, 10 c.

Antimony (**Regulus**)—
Rotterdam, 10 t. 12 c. 3 q. 5 lb.

Bleaching Powder—
Rotterdam, 10 t. 3 c. 1 q. 9 lb.
Gothenburg, 50 2 19
Copenhagen, 26 8 3 14

Caustic Soda—
Antwerp, 1 t. 14 c. 3 q. 8 lb.
Barcelona, 63 19 2
Gothenburg, 4 18 2 18
Copenhagen, 8 14 12
Stavanger, 10 3 14
Seville, 68 12 3 2

Chemicals (*otherwise undescribed*)
Pomaron, 4 lb.

Coal Products—
Pitc
Dunkirk, 280 t. 5 c.

Hydrochloric Acid—
Pomaron, 6 c. 1 q. 15 lb.

Litharge—
Rotterdam, 5 c. 3 q. 11 lb.
Antwerp, 5 t. 13 2 16

Magnesia—
Barcelona, 5 t. 18 c. 25 lb.

Nitric Acid—
Pomaron, 1 c. 1 q. 22 lb.

Red Lead—
Rotterdam, 1 t. 2 c. 7 lb.
Barcelona, 2 2 3 q. 25
Gothenburg, 8 11 1 2
Aarhus, 16 3 2
Pomaron, 6 1 5
Copenhagen, 1 7 1 25
Bergen, 1 2 2 11

Soap—
Bergen, 2 t. 2 q. 14 lb.

Soap Powder—
Bergen, 1 c. 2 q. £12

Soda Ash—
Amsterdam, 5 t. 3 c. 1 q. 25 lb.

Soda Crystals—
Amsterdam, 10 t.
Rotterdam, 6 14 c. 1 q. 14 lb.

Sodium Hyposulphate—
Gothenburg, 1 t. 7 c. 2 q.

Sodium Sulphide—
Gothenburg, 1 t. 12 c. 7 lb.

Sulphur—
Gothenburg, 160 t.

Tallow—
Pomaron, 4 t. 16 c. 3 q. 19 lb.

White Lead—
Rotterdam, 5 t. 9 c. 2 q. 1 lb.
Pomaron, 6 1 26
Copenhagen, 9 3 9

Zinc Ore—
Antwerp, 58 t. 6 c.

GOOLE.

Week ending November 23.

Ammonium Sulphate—
Dunkirk, 15 t. 154 bgs.

Bog Ore—
Embden, 600 t.

Caoutchouc—
Boulogne, 3 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 270 bgs.
Boulogne, 15 cks. 1 cs.
Ghent, 50 bgs.
Hamburg, 40 30 dms.
Rotterdam, 66 58 / 23 cs.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 1 brl. / 225 bgs.
Boulogne, 15 cks. 4 bls.
Hamburg, 345 7 cs.
Ro'terdam, 1021 135
,, 225 bgs.

Farina—
Hamburg, 20 bgs.

Glue—
Hamburg, 5 bgs.
Antwerp, 40 bls.

Kainit—
Hamburg, 200 bgs.

Magnesite—
Amsterdam, 50 bgs.

Oleine—
Dunkirk, 18 cks.
Antwerp, 3

Phosphate Rock—
Dunkirk, 165 t.

Potash—
Dunkirk, 4 cks. 30 dms.

Rosin—
Rotterdam, 5 cks.

Starch—
Hamburg, 2 cks.

Stearine—
Hamburg, 12 cks.
Antwerp, 25 bgs.

GRIMSBY

Week ending November 20.

Albumen—
Hamburg, 5 cks.

Barytes—
Hamburg, 40 cks.
Antwerp, 100 bgs.

Caoutchouc—
Hamburg, 53 cs.
Rotterdam, 2
Antwerp, 6

Chemicals (*otherwise undescribed*)
Antwerp, 11 cks.
Rotterdam, 2 1 cs.
Hamburg, 8 5

Coal Products—
Naphtha
Hamburg, 1 ck.

Colour—
Antwerp, 106 pks.
Rotterdam, 2 cks. 26
Hamburg, 9 28

Ferro Chrome—
Dieppe, 15 cks.

Glue—
Antwerp, 20 bgs.

Iron Ore—
Narvik, 3,000 t.

Kainit—
Hamburg, 311 t.

Rosin—
Hamburg, 1 ck.

Soda—
Rotterdam, 79 bgs.

Starch—
Antwerp, 50 cs.

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PRICES CURRENT.

FRIDAY, December 6, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids —				
* Acetic 25% and 40%	per cwt.	9/-	&	13/-
* ,, Glacial	,,		30/-	
Arsenic S.G. 2.000*	,,		31/-	
* Fluoric	per lb.	0	0	4½
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/1	
* ,, (Cylinder), 30° Tw.	,,	0	2	9
* Nitric 80° Tw.	per ton	14	15	0
* Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10⅛
Picric	,,	0	0	11
* Sulphuric (fuming 70%)	per ton	6	0	0
* ,, (Pyrites, 168°)	,,	3	2	6
* ,, (,, 150°)	,,		30/-	
* ,, (free from arsenic, 145°)	,,		36/-	
* Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10½
*Acetone	per ton	81	0	0
Arsenic, white powdered	nett ,,	26	0	0
*Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	-	6
Aluminoferric (in slabs)	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	100	0	0
*Ammonia Anhydrous	per lb.	0	1	1
* ,, .880	per ton	21	0	0
* ,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	2⅝
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey) London	,,	11	15	0
,, ,, ,, Hull	,,	11	16	3
,, ,, ,, Manchester	,,	11	17	6
*Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4¾
Antimony	per ton	36	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
*Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
* ,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8¾
,, 50/90	,,	0	0	8½
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅛
,, (liquid 95/97%)	per gallon	0	1	3
* Creosote (ordinary), naked	,,	0	0	2¾
* ,, (filtered for Luciform light)	,,	0	0	3½
* Crude Naphtha, 30% A at 120° C.	,,	0	0	3½
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0
* Pitch, f.o.b. Liverpool or Garston	,,	1	2	6
* Solvent Naphtha, 90% at 160°	per gallon	0	1	3
Copper	per ton	51	0	0
,, Sulphate	,,	22	10	0
,, Oxide (copper scales)	,,	55	0	0
*Glycerine (crude), 80%	,,	37	10	0
* ,, (distilled S.G. 1260°)	,,	61	10	0
Iodine	nett per oz.	0	0	6
*Iron Sulphate (copperas)	per ton	1	10	0
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	18	0	0
,, Litharge Flake (ex ship)	,,	18	15	0
,, Acetate (white) ,,	,,	29	0	0
,, ,, (brown) ,,	,,	25	5	0
,, Carbonate (white lead), pure	,,	22	0	0
,, Nitrate	,,	32	0	0
Lime, Acetate (brown) (ex ship)	per ton	7	15	0
,, ,, (grey) 80%	,,	11	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	17	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0 *
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	7	15	0
Methylated Spirit, 60° (Industrial)	per gallon	0	1	5 *
Naphtha (Wood), Solvent	,,	0	2	4 *
,, ,, Miscible, 60° O.P.	,,	0	1	10 *
Oils :—				
Cottonseed	per ton	22	15	0
Linseed	,,	22	15	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash) 90%	per ton	25	10	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	10	0 *
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.		36/-	
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	2 11/16
Sodium (metal)	per lb.	0	3	0
,, Carb (refined Soda-ash), 48%	nett per ton (f.o.r w'ks.)	5	15	0
,, ,, (Caustic Soda-ash), 48%	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48%	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags)	,, ,,	4	10	0
,, ,, (Soda Crystals) (bags)	,, ,,	2	17	0
,, Acetate (ex ship)	,, ,,	17	5	0
,, Arseniate, 45%	,, ,,	23	10	0
,, Borate (Borax), Crystals	,, ,,	16	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.)	nett per ton (10 ton lots)	11	0	0
,, ,, (74% C. Soda)	,, ,,	10	15	0
,, ,, (70% C. Soda)	,, ,,	10	5	0
,, ,, (60% C. Soda)	,, ,,	9	5	0
,, ,, (pure liq. 90° Tw.)	,, ,,	4	15	0
,, 77/78% powdered (99% hydrate)	per ton	12	10	0
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0 *
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	7	6
,, ,, (liquid, 100° Tw.)	,,	3	15	0
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6 *
,, ,, (Glauber's Salts)	,,	1	15	0 *
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6 *
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	33	10	0
Tin Crystals	per lb.	0	0	9¾
,, English Ingots	per ton	139	0	0
Zinc (Spelter)	,,	21	2	6
,, Chloride (solution, 100° Tw.)	,,	6	5	0 *
,, Sulphate, Crystal	,,	7	0	0

*Packages extra, or returnable: Otherwise, prices usually include packages.

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THE

CHEMICAL TRADE JOURNAL

AND

CHEMICAL ENGINEER.

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LATE ADVERTISEMENTS.

TENDER.

BRECON GAS COMPANY.

TENDERS are invited for the surplus Tar and Liquor produced at these works, delivered into tank wagons at Brecon Railway Station, for one year, ending December, 1908.

Probable quantity, 120 tons of tar and 250 tons of liquor of varied strength.

The Directors do not bind themselves to accept the highest or any Tender.

Separate sealed Tenders to be delivered, addressed to the Directors of the Company, on or before Wednesday, January 1st, 1908

SALE BY AUCTION.

BY ORDER OF THE RECEIVER.

SWANSEA CHEMICAL WORKS, LLANSAMLET, GLAMORGANSHIRE.

MR. W. J. REES will offer for Sale by Auction, at the Hotel Metropole, Swansea, on Tuesday, 17th December, 1907, the above Important Industrial Undertaking, together with the Buildings, Fixed Plant and Machinery, comprising: Two Glover Towers, Nitric Tower, Gay Lussac Tower, Two Large Chambers, Zinc Blende Crushing Plant and Furnace, Pyrites Smalls Furnace, Seven Railway Acid Tank Wagons, etc. The Works are provided with convenient railway sidings. The area comprised in the taking is about 10 Acres, and held for a term of 99 years from 20th September, 1891, at a ground rent of £167 per annum.

Particulars, with Plan and Conditions of Sale, will be obtainable of F. H Edwards, Esq., Solicitor, 20, Fisher-street, Swansea, S. H. Buckland, Esq., Receiver and Liquidator, Goat-street, Swansea, and of the Auctioneer, The Laurels, Swansea.

REQUIRED by Analytical Chemist, 21, certificated by Finsbury Technical College, post as Assistant, London or provinces; reasonable salary; has £100 at command; strict confidence.—Y. Z., *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CHEMIST, 21, B.Sc. Honours chemistry, desires appointment; thorough theoretical knowledge, good analyst; best testimonials.—Address, W., 123, Antill road, Bow, London

REQUIRED, thoroughly competent Man to manufacture Bisulphide Carbon.—Write, stating full particulars, "Veritas," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CHEMIST (24) seeks post; trained technical college and six years' experience large works' laboratories; careful analyst, good knowledge organic chemistry, could research; good references.—"1,635," *Chemical Trade Journal* Office, 265, Strand, London, W.C.

CASED JARS.—Basket-cased One-gallon Jars for Sale at 13s. per dozen, delivered free in London.—Sample will be sent on application to The "Sanitas" Company, Limited ("N" Dept.), Locksley-street, Limehouse, London, E.

PEAT CHARCOAL.—500 tons wanted.—Price and full particulars to P. M. Short, 24, Dulwich-road, Herne Hill, London.

CHEMICAL Plumber and Lead Burner, expert workman, will estimate for general lead work, etc., or supply labour only (9½d. per hour).—Address, X. Y. Z., *Chemical Trade Journal* Office, Manchester.

CURRENT TOPICS.

THE BOARD OF TRADE AND INDUSTRIAL DISPUTES.

WITHIN the last month the President of the Board of Trade has been successful in preventing the occurrence of two serious strikes, both of which would have had grave consequences for the staple industries of the country. Mr. Lloyd-George's intervention in the railway trouble will be fresh in the minds of our readers; his more recent mediation in the dispute in the cotton trade, though not of the same degree of importance, is none the less a matter of great interest. Any suspension of operations in the Lancashire cotton industry reacts almost immediately on many branches of chemical manufacture, and therefore the peaceful issue of the negotiations will be welcomed by all concerned in the closely allied industries.

The task of averting a strike in connection with this latter labour trouble, although not concerned with such vast interests as those involved in the railway crisis, was still a very difficult one. The points at issue were of a peculiar and highly technical nature, and the success attending the intervention of the Board of Trade was largely due to the fact that Mr. Lloyd-George very wisely refrained from attempting to deal with them in detail. Instead of this, he persuaded the representatives of both sides to agree to a fortnight's truce, and during this interval to refer a disputed clause in the famous "Brooklands agreement" (which largely governs the question of wages in the cotton trade) to the Law Officers of the Crown for their opinion as to its application in this particular instance. Pending their decision, he also succeeded in obtaining a continuation of friendly discussion of the technical points involved, and the result of his intervention has been a decision which satisfies both parties to the dispute, and which will, in all probability, ensure prolonged peace, as in the case of the railway settlement.

It seems to us that the activity of the President of the Board of Trade in connection with such negotiations will probably result, at no distant date, in an attempt at legislation with the object of establishing some impartial body, whose office it will be to play the part, in industrial disputes generally, which Mr. Lloyd-George has so successfully initiated. We believe that the time is ripe for some such step on the part of the Government. Its success would of course very largely depend on wise administration, but with the present officials at the

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Board of Trade we see no reason to doubt the possibility of a good beginning, and such a departure could not fail to be highly beneficial to British trade and commerce. The spirit of conciliation and compromise has been markedly in evidence of late, and a serious attempt to obviate these periodical and costly struggles would, we believe, be warmly welcomed in industrial circles.

THE TRAINING OF ENGINEERS.

Writing in the *Glasgow Herald* on laboratory work as a training ground for the engineer, Professor A. L. Mellanby suggests that this is a matter the importance of which has not hitherto been sufficiently recognised. The usual laboratory work tends merely to familiarise the young engineer with the subjects taught him in the lecture room; a training on such lines, though useful enough in its way, should be only the beginning and not the sum total. In addition, the student should be made familiar with the methods of research work by attacking some of the numberless problems in engineering still awaiting solution. After going through the ordinary curriculum of the engineering college, the student, at the age of nineteen, has a theoretical knowledge of engineering; he can test specimens of materials, take indicator cards and conduct an ordinary engine or boiler trial, but he can make no practical use of his scientific knowledge, and if employed to act on his own responsibility would fail badly.

The natural conclusion is that the average college training is absurd and inadequate. It is the result of years of educational incompetence, due, for the most part, to the attitude of employers. Any advance in education has been because students, feeling the necessity for information, have attended engineering courses with absolutely no encouragement from outside sources. At the present day, employers are gradually becoming willing to support a scheme of education which they realise as being advantageous to themselves. The usual reply of employers—and it is not without a certain amount of truth—on the subject of college-trained youths has been that such men are not worth the money spent on them. From their point of view the employers are right, as the ordinary college student has had no actual engineering experience. The remedy is obvious. Instead of wasting vast sums of money on technical education, workshop practice should be made a *sine quâ non* of the college scheme of work. That such a proposition would cause some inconvenience is certainly true. A youth of nineteen is generally of some value to his employer, who naturally objects to parting with him for two or three years for what, in his opinion, are purely problematical reasons. "Unless, however, engineers of this country are to become mere copyists and to confine themselves to the manufacture, under licence, of foreign inventions, it is necessary," says Prof. Mellanby, "that some sacrifice should be made. It would be but an investment certain to produce a big return in a few years."

The student, he continues, must not only have a working acquaintance with engineering practice, but must be prepared with sufficient knowledge of mathematics and physics to take up his technical studies at the college with profit. It is a natural corollary that there must be a continuity of theoretical study between school and college. The youth who neglects his education on leaving school, who, after some years with an engineering firm, determines to take a college training, finds that his knowledge of science and mathematics is so small that he cannot take advantage of the higher technical lectures, and, in consequence, wastes time in trying to obtain that elementary knowledge that he might easily have acquired had he continued his studies on leaving school.

The student after leaving school should immediately proceed to college and there take up the first year general course. At the close of the college session he ought to enter an engineering works, where he should remain for at least three years. During these three years he would keep up his studies, especially devoting himself to mathematics and physics. At the end of this time he ought to return to college and take, during the winter session, the second year's course. The following summer would be again spent in the workshops, and the next winter would be devoted to the third and final course of college work. This scheme bears some resemblance to the oft-discussed "sandwich" system, but there are sufficient differences to ensure that the comparative failure of the old scheme will become the absolute success of the new one. It is essential for its success that there be continuity of theoretical work from the time the student leaves school, and no apprentice ought to be allowed to take up the second year's college course unless he could produce evidence of having made material progress in his mathematics and natural science during the three years spent in the works.

The advantages of such a scheme will be readily apparent. The student would take up his second and third years' college work with such a preliminary training that the whole character of present-day college classes would be changed. The laboratories, instead of being places for elementary testing, might develop into schools for real research. Practical problems that had arisen during workshop experience might be settled by direct experiment, and an amount of information gathered that would, in a short time, lead to an immense improvement in our national engineering.

The great difficulty in carrying on experimental work outside the colleges is the lack of suitable men. The scheme under consideration insists upon the great importance of laboratory work in the production of the right type of engineer. Laboratory work of the proper kind cannot be carried out unless students have had considerable engineering experience; in order to ensure the success of the course, the co-operation of engineering firms with the colleges is essential. Facilities for carrying on workshop and college training side by side must be provided, and the question of a slight amount of works disorganisation ought not to stand in the way of its adoption. Modifications of the scheme may be suggested, "but," says Prof. Mellanby, in conclusion, "it is of enormous importance that the present haphazard methods should be abandoned, and some definite agreement come to between works and college."

BOARD OF TRADE RETURNS.

The Board of Trade returns for November show considerable increases in both imports and exports for the month. The total imports (value, c.i.f.) amounted to £57,145,099., against £55,747,079. in the corresponding month of last year, an increase of £1,398,020.; the comparison with 1905 shows a gain of £4,009,203. The total imports for the eleven months are £36,536,297. above the figures for the corresponding period of last year, and

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£77,753,435. as compared with 1905. The total exports for November (value, f.o.b.) amounted to £35,862,176, against £32,975,162. in November, 1906, an increase of £2,887,014.; and an increase of £6,254,027 as compared with 1905. The total exports for the eleven months of 1907 are £49,199,122. above the figures for last year, and £92,091,587. over 1905.

The imports of chemicals, drugs, dyes and colours in November amounted to £979,547., against £884,200. in 1906, an increase of £95,347. The imports of bleaching materials were valued at £3,029., against £4,278., and of soda compounds £12,611., against £12,803. in 1906.

The exports of chemicals, drugs, dyes and colours in November amounted to £1,374,360., against £1,360,483. in 1906, an increase of £13,877. During the month the principal items were:—Bleaching materials, 89,485 cwts., valued at £20,708., against 89,496 cwts. and £17,733. in 1906. Coal products (not dyes), value £147,791., against £129,070. in 1906. Copper sulphate, 1,359 tons, valued at £31,127., against 887 tons and £23,326. in 1906. Dyestuffs, £31,795., against £32,878. in 1906. Glycerine, £31,231., against £25,790. in 1906. Chemical manure, 43,555 tons, valued at £337,794., against 49,611 tons and £326,661: Muriate of ammonia, 11,182 cwts., valued at £14,582, against 15,926 cwts. and £20,587. in 1906. Painters' colours and materials, 160,492 cwts., valued at £203,761, against 157,107 cwts. and £194,796. in 1906. Soda compounds, 482,329 cwts., valued at £157,233., against 628,577 cwts. and £184,447. in 1906. The exports of salt in November amounted to 35,293 tons, valued at £29,872., against 47,196 tons and £35,014. in 1906. Exports of "unenumerated chemicals" were valued at £250,797., compared with £257,589. in 1906.

The imports of oil seeds, nuts, oils, fats, and gums in November amounted in value to £2,481,753., against £2,283,803. in 1906., an increase of £197,950. The figures for petroleum were: 28,048,955 gallons, valued at £584,594., against 29,197,061 gallons and £545,397. in 1906. The value of exports of oil seeds, nuts, oils, fats, and gums was £354,612., against £270,530., an increase of £84,082.

The imports of metals and minerals during November were:—Copper ore, 7,205 tons, valued at £69,907., against 6,423 tons and £63,605. in 1906. Copper (regulus and precipitate), 5,163 tons, valued at £195,674., against 4,705 tons and £215,489. in 1906. Lead (pig and sheet), 19,108 tons, valued at £36,144., against 17,184 tons and £321,146. in 1906. Pyrites of iron and copper, 54,177 tons, valued at £83,167., against 47,643 tons and £82,387. in 1906. Quicksilver, 53,850 lbs., valued at £4,674. (no imports in November, 1906). Silver ore, value £264,832., against £178,341. in 1906. Tin, 3,797 tons, valued at £529,669., against 3,932 tons and £166,253. Zinc (crude), 7,267 tons, valued at £156,269., against 9,126 tons and £236,823.

THE FARADAY SOCIETY.—An ordinary meeting of the Society will be held on Tuesday, December 17, at 8 p.m., in the Library of the Institution of Electrical Engineers, 92, Victoria-street, S.W. Dr. F. G. Donnan will read a paper on "A Physico-Chemical Study of the Complex Copper-Glycocoll Sulphates," by J. T. Barker, B.Sc. Dr. F. Mollwo Perkin will lecture on "The Centenary of the Discovery of the Alkali Metals by Davy: The Industrial Developments of the Discovery." The lecture will be illustrated. The secretary will be glad to receive contributions to the discussion from those unable to be present at the meeting.

NITRATE OF SODA.

THE gradual increase in the supply of labour in Chili, recently referred to in these columns, is shown by last month's output, which reached 172,637 tons, against 172,223 tons in October (with one day more) and 164,133 tons in November, 1906. The total is the largest yet attained in any one month in the history of the nitrate industry, as is also that of stocks on the West Coast at this time of the year, namely, 560,000 tons against 445,000 tons on 1st December, 1906. These formidable figures, counteracting the moderate November shipments, account for last week's market weakness, but, as was to be expected, labour troubles are once more reported as likely to hinder shipping operations. Notwithstanding a large advance in wages, the workmen at Iquique are said to have gone on strike, and difficulties have arisen at some of the minor ports. A somewhat firmer tone has consequently been imparted to the markets on this side, without any increase of business, however, buyers being content to wait developments. Cargoes arriving at ports of call are ordered away unsold, yet another having been sent to Dunkirk! Hamburg has special financial difficulties to contend with, and Belgian stocks are about twice as large as at this time last year. According to the circular (dated 6th inst.), of Messrs. Henry Bath and Son, statisticians to the Permanent Nitrate Committee, "whereas there were buyers earlier in the fortnight at 8s. 6¼d. per quintal for second half of 1908 shipment, there now seems little prospect of sellers obtaining more than about 8s. 2½d. to 8s. 3d., free alongside for the same thing." The position in Chili has certainly not improved with the threatened further accumulation of stocks through strikes, and an important Bank with large nitrate interests has failed. European holders of the fertiliser may put up their prices if shipments are seriously delayed this month, but consumers have as yet no cause for alarm.

THE FRANCO-BRITISH EXHIBITION.

THE work of erecting the various buildings in connection with the Franco-British Exhibition is now rapidly nearing completion, and on Thursday, the 12th inst., about 700 guests of the Duke of Argyle inspected the progress made. Most of the steel work has already been erected, and there is every indication that the buildings will be completed in ample time for the reception of exhibits; in fact, it is confidently asserted that some of them will be finished early in January next. It has been stated that British manufacturers do not favour exhibitions, owing to the opportunity afforded to foreign rivals of copying their specialities. The question which, however, presents itself is not whether it pays to exhibit, but whether, under modern conditions, manufacturers can afford not to exhibit. In the various buildings set apart for the chemical and allied industries, exhibitors will have a splendid opportunity of displaying their best manufactures, and it cannot be too readily taken advantage of, since France has evidently determined to make every possible use of the Exhibition to display her finest products. The Exhibition will, it is hoped, emphasise both to England and France the importance of an interchange of their respective commodities.

Obituary.—We regret to record the death of *Mr. Samuel Hall, F.I.C., F.C.S.*, of the well-known firm of Edward Cooke and Co., East London Soap Works, Bow, and Honorary Treasurer of the Society of Chemical Industry. Mr. Hall was taken ill late in November, but at first it was confidently expected that he would recover; unfortunately, however, his strength failed, and he passed away peacefully on Monday last, to the deep sorrow, not only of the family and their immediate connections, but of the whole of the staff of Edward Cooke and Co., who have for so many years been associated with him, and who realised his innate kindliness and generous spirit.

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METALS AND MINERALS IN SPAIN.

CARTHAGENA.

MR. VICE-CONSUL GRAY reports that the quantities of iron and manganiferous ores shipped during 1906 were to the following countries:—United Kingdom, 405,976 tons; Netherlands (for Germany), 211,182 tons; France, 15,756 tons; Germany (direct), 1,000 tons; Italy, 2,700 tons; United States, 32,675 tons; Austria-Hungary, 25,250 tons; total, 694,539 tons. This was 248,504 tons more than in 1905, or 379,514 tons more than in 1904. The demand for iron ores increased enormously in 1906, and mining has in consequence been carried on at the highest pressure; but, notwithstanding this, the production has fallen far short of the demand. The Cehegin or Calasparra magnetic ore, which was looked on at first somewhat suspiciously, is now in great demand. The output can scarcely satisfy half the wants.

The following were the exports of lead:—Silver-lead: United Kingdom, 20,457 tons; France, 9,776 tons; total, 30,233 tons. Soft lead: United Kingdom, 9,310 tons; France, 3,540 tons; Netherlands, 2,610 tons; Germany, 565 tons; Italy, 560 tons; Belgium, 710 tons; total, 17,295 tons. The quantity of silver-lead sent to the United Kingdom was 517 tons more than in the previous year and should have been still greater, as between 1,500 and 2,000 tons were shipped in January, 1907, which ought to have gone in December, 1906, but were put back for want of timely tonnage. To France the quantity was 2,974 tons less than in 1905, but there were some small stocks in hand at the end of the year which ought to have been shipped before. The exact quantity cannot be given, but it was somewhere about 500 tons; so, taking into consideration those late-shipped quantities, the total year's production of silver-lead may be calculated to be about 2,500 tons less than in 1905. The total quantity of soft lead exported in 1906 was less by 3,061 tons than in 1905. The United Kingdom got 1,140 tons less, which may be attributed partly to the smaller total exported and partly to the greater facilities for shipping direct to other countries. Much of the soft lead which formerly was sent to London, as a point of distribution, is now shipped direct to the countries which want it.

Taking silver and soft lead together, the product of 1906 was shorter by 5,500 tons than that of 1905. So far as I can find out the output of mines in this immediate neighbourhood was more or less the same as usual, but as smelters depend as much, or perhaps more, on ore brought from places outside this district, it was in those places where the shortage arose. The price of lead during the year ruled very high—higher than for many years. It began the year at £17. 15s. 9d. per ton, got down to £15. 11s. 3d. about the middle of March, went on rising from that date, with slight fluctuations, until it reached £20. 1s. 3d. for one day in October, and then fluttered on at a little lower rate until December 20, when it again reached £20. 1s. 3d., and so continued till the end of the year. Such prices have not obtained since about the later seventies of last century.

About the same quantity as usual of soft lead was sent to Barcelona from here, *viz.*, 3,615 tons. There were exported in 1906 32,322 kilos. of silver, equal to 1,039,152 ozs. troy, all to France—2,693 kilos. less than in 1905. The price at the beginning of the year was 2s. $7\frac{1}{32}$d. per oz., and it did not fall below this figure during the year. It reached its highest in November at 2s. $11\frac{3}{32}$d. per oz., and saw the year out at 2s. $10\frac{31}{32}$d. per oz.

The following quantities of zinc ore were shipped to the countries named:—Blende: Belgium, 55,210 tons; United Kingdom, 6,994 tons; Germany, 15,025 tons; France, 1,117 tons; total, 78,346 tons. Calamine: Belgium, 9,951 tons; Germany, 5,561 tons; France, 1,102 tons; United Kingdom, 626 tons; total, 17,240 tons. These exports together amount to 7,156 tons more than in 1905. The figures include very large stocks which were in hand at the end of 1905. Consumers were over-stocked then, and seem to have been so ever since. They retarded deliveries, and would not admit new quantities except at prices which did not bear any comparison to the price of zinc (metal). The consequence was that some mines did not produce and others held their stocks. What went forward was chiefly contracted for previously, though the product of one or two specially favoured mines was also shipped.

The exports of copper ore and matte were:—Ore: United Kingdom, 406 tons; France, 36 tons; total, 442 tons. Matte: United Kingdom, 155 tons; Germany, 23 tons; total, 178 tons. This was 50 tons more ore and 104 tons more matte than were shipped in 1905. This district does not produce copper in large quantities.

The shipments of iron pyrites during the year were:—To France, 3,425 tons; Italy, 380 tons; total, 3,805 tons; or 1,350 tons more than in 1905. The United Kingdom took 1,020 tons in 1905 and nothing in 1906. Any quantity of this ore could be mined if prices were remunerative.

The shipments of sulphur were:—To United Kingdom, 860 tons; Belgium, 40 tons; total, 900 tons.

Apart from the natural phosphates brought here for the purpose of being manufactured into serviceable manure, the following quantities of other artificial manures were imported in 1906 from the countries named:—Germany, 511 tons; Chile, 680 tons; France, 1,778 tons; Netherlands, 140 tons; United Kingdom, 878 tons; total, 3,987 tons.

Also under the special heading of "Superphosphates and Thomas slag" there were the following imports:—Belgium, 20 tons; France, 375 tons; Netherlands, 615 tons; United Kingdom, 945 tons; total, 1,955 tons.

One of the signs of improvements in matters connected with the cultivation of the soil is the increasing use of chemical manures. Other modern methods of treating the ground and its produce are sure to follow, though their adoption will at first be slow and gradual.

The mining industry of Carthagena was much the same as in the previous year, so far as regards the mining of lead and zinc ores, although it was somewhat restricted in some mines owing to the reluctance or refusal of over-stocked consumers to receive zinc ores not already contracted for. Iron ore mining has been pursued vigorously and extensively owing to the abnormally heavy demand for this class of mineral. The drainage of a large and important area in this mining district, where big deposits of lead, zinc and manganiferous ores are known to exist, is being continued, but hitherto not with the desired success. Hopes are entertained that the undertaking will be finally successful, and when this takes place the supply of the ores indicated is expected to be greatly increased.

Society of Chemical Industry: *Liverpool Section.*—The Hon. Local Secretary informs us that no meeting of the Section will be held during December.

The Soap Industry in India is capable of developing into a very large trade. Comparatively few of the 300,000,000 inhabitants know the use of soap yet, but it is slowly and surely making its way into favour. Even the Calcutta coolie who takes to soap refuses to go back again to the Ganges mud!

Copper in Mexico.—According to a statement issued by the Department of Fomento, there are in the Republic more than 1,000 mines working principally for copper. Of these the State of Jalisco has 302, Sonora 234, Michoacan 95, Lower California 65, Chihuahua 53, and Durango 51. As regards tonnage, the State of Sonora is first, while Lower California comes next. This latter company, which sends all its shipments to Europe, is smelting more than 25,000 tons of ore and producing about 2,000,000 lbs. of copper per month. The latest reports from this territory of Lower California are to the effect that rich placer ground is being found on the Rio Tia Juana, about 80 miles south-east of San Diego, Cal., and that a large Los Angeles company is prepari g to start dredging operations.

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THE INTERNATIONAL PETROLEUM CONGRESS.

THE recent International Petroleum Congress at Bucharest is the subject of a report in the *Engineering and Mining Journal* (New York) by Mr. David T. Day, Chief of the Bureau of Statistics, U.S. Geological Survey. The Congress, which was attended by over 400 members, was a complete success, and resulted in a great gain in the knowledge of the origin and theories of petroleum, as well as in the development of its technology. Perhaps the best result attained was the knowledge of the necessity for adequate means of separating crude petroleum into its constituent hydrocarbons as a prelude to drawing conclusions regarding the nature of various oils. The proceedings commenced with a lecture by Prof. Mrazek, the Chief of the Geological Survey, who traced not only the geological structure, but also the recent development of oil territory to the S.W. An excursion to this field followed the lecture, in which the refinery interests were seen and all the important oil fields studied. Amongst other places visited by the party were the oil wells at Tsinea, the refinery of Aurora, the wells and refinery of Recea, Bushtenari the Great—the Roumania oil mecca, the foremost field of all on account of its prolific yield and the good lubricating oils obtained from its residue, and lastly Moreni, a field in high favour, though the complicated geology makes drilling a veritable lottery.

On their return to Bucharest the party settled down to discuss some seventy papers on geology, chemistry, and economics, the University Building being given over to them for the purpose. In Section I. (Geology), Prof. Mrazek gave a study of courses taken by oils in Roumania, showing experimentally the behaviour of petroleum to shales, and insisting upon the importance of moisture in the shales. He demonstrated that such absorption of oil in a shale does not furnish an oil supply; super-saturation is the essential thing. For this he showed that it was only necessary for water to enter the oil-saturated shale and drive out the oil into some other reservoir. Prof. Mrazek further demonstrated the capacity of a moist shale to serve as the best possible cover for an oil pool.

Prof. Engler re-elaborated his ideas of the animal origin of petroleum. He asserted that he had found certain natural crude oils which agreed in optical activity with his artificial product. He next showed that search for an animal residue which could yield petroleum, optically similar to the usual natural crudes, had been successful with cholesterin; he regarded this, in consequence, as the natural petroleum source. In the discussion following this paper Hoefer spoke decidedly in favour of the animal theory; Mrazek, as an argument against the inorganic origin, laid perhaps too much stress on the absence of oil deposits in volcanic regions.

In Section II., Engler, Zaloziecki, Rakussin, and others carried the war as to the origin of petroleum into the camp of the chemists. The discussion which followed emphasised the necessity for a method of separating each crude oil into its hydrocarbons, and the classification of each oil by the quantity of each hydrocarbon which it contains, instead of, as is done now, naming an oil geographically. Roumanian work has shown that crude oils offer a better source of supply than coal-tar for hydrocarbons of the benzol series, It is certain that German and Roumanian laboratories will soon draw on these oils as the basis of the aniline dye and similar industries.

In Section III., Dr. Paul Schwartz, of Berlin, Dr. Paul Dvorkovitz, of London, and others contributed papers dealing with the statistical conditions of their respective countries. Methods of unification for testing oil products were discussed, and finally, as a compromise, a tentative set of international methods was adopted, and the remainder were referred to an international committee consisting of two members from each country. The proceedings were throughout marked by great cordiality on the part of the Roumanian Government.

The next meeting will be held in Lemberg, Galicia, in 1910.

THE INDIAN MANGANESE INDUSTRY.

IN the course of an article in the *Journal* of the British Society for the Encouragement of Arts, Manufactures, and Commerce, on the manganese industry, Mr. A. Ghose expresses the opinion that in a few years' time India is likely to be the leading producer of this metal. At present India supplies more manganese ore to the iron furnaces of Great Britain than any other country, and her export to Continental and American ports is also steadily increasing. Indian ores have several important advantages over Russian ores to give them preference in smelting establishments, their compact structure, hardness, friability, and absence of dust, making them easy to handle. There are, at present, no facilities in India for smelting ores on the spot, as the deposits are far removed from any sort of fuel, and a considerable amount of ore is wasted every year, as it is too low-grade to stand the cost of transportation.

No exportation of pyrolusite has taken place from India, although this ore has been met with in some places, notably at Pali, some six miles from Munsur, Central Provinces. The ore has yielded 62% of manganese. The manganese quarries of Vizagapatam are situated near a seaport, and there has, in consequence, been a profitable exploitation of a middle-grade ore containing high percentages of phosphorus, and suitable for the basic process. The ore extracted from the Nagpur Mines, in the Kamptee district, has been the highest grade yet exported, but its percentage of silica exceeds the limit of standard requirements. Amongst other deposits noted for the excellence of their ore are Ramtek, Munsur, Kachurwahi, Manegaon, and Kodaigon; the mines at Bhandara and Balaghat show extraordinary developments of ore bodies, and are being actively exploited. In the Jubbulphur area, in the neighbourhood of Chaibassa, in Bengal, and in the Mysore, Shinioga, Chitaldrug, and Tumkur districts, everything is practically in the hands of manganese exploiters, hundreds of miles being taken up under prospecting licences. A quantity of good psilomelane has been exported from the beds in the neighbourhood of Kumsi. In the Sandur State mining operations are proceeding on a large scale; the ore of this locality, being non-siliceous and non-phosphoric in character, is in great demand.

In Portuguese India the deposits are all in laterite, and, for the most part, limited in life. Amongst the principal mines are Sancordem, Candiapar, Fanuswadi, and Wagy. The proximity of Marmagoa harbour to these mines affords facilities for working even an inferior grade of ore; but the capacity of the harbour is limited, and unless this defect is remedied, the South Indian manganese industry will receive a severe check. A combination—now almost out of the question—could have averted the present competition to a marked extent.

Bequest to Manchester University.—The late Professor Thomas Barker, formerly of Owens College, has left to the University of Manchester property that will probably amount to about £40,000., or, after payment of legacy duty, to about £36,000. The bequest is to found a Professorship of Cryptogamic Botany, and to provide bursaries or scholarships.

Messrs. Michael Pal and Co., of Parliament Mansions, Victoria-street, S.W., inform us that they have been appointed sole agents for the United Kingdom and the Colonies of Messrs. Louis Schwarz and Co., Aktiengesellschaft, Dortmund, who are specialists in low-pressure steam turbines, condensing plants, cooling towers, and heat accumulators, and who have special designs for cleaning efficiently blast-furnace gases, to be utilised for driving large gas engines.

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IMPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., imported during November, 1907, as compared with November, 1906:—

ARTICLES.	QUANTITIES. Month of November.		VALUE. Month of November.	
	1907.	1906.	1907.	1906.
CHEMICALS:			£	£
Bleaching Materials Cwts.	12,071	16,380	3,029	4,278
Boracite, Borate of Lime, Borate of Magnesium, and Borax ..... ,,	51,278	25,228	28,536	12,648
Brimstone .... ,,	32,570	25,579	7,707	6,978
Coal Products, not Dyes .... ,,	6,051	4,204	7,613	7,747
Cream of Tartar ,,	6,254	5,132	24,398	19,502
Glycerine ..... ,,	4,006	4,417	7,453	7,494
Muriate of Ammonia .... ,,	662	967	885	1,325
Saltpetre (Nitrate of Potash) .... ,,	19,936	22,957	20,287	22,627
Soda Compounds ,	34,097	31,780	12,611	12,803
Sulphuric Acid . ,,	10,4[illegible]	8,924	936	719
Tartaric Acid .. ,,	2,478	2,731	11,484	13,328
Unenumerated, including Carbide of Calcium and Sulphate of Nickel Value ,	--	—	220,476	163,005
DRUGS and MEDICINES:				
Bark, Peruvian ..Cwts	1,514	1,913	3,499	3,987
Quinine and Quinine Salts .. ozs.	223,500	156,183	7,219	5,309
Unenumerated Value £	—	—	95,422	99,002
DYE STUFFS (other than DYE WOODS) and SUBSTANCES used in Tanning or Dyeing:				
Bark, for Tanning Cwts.	22,781	22,583	9,274	8,974
Cutch ..... Tons	421	384	8,192	8,693
Dyes, Coal Tar: Alizarine and Alizarine Dyes Cwts.	3,648	6,461	17,795	26,674
Aniline ..... ,,	21,087	19,315	119,511	110,626
Synthetic Indigo ,,	3,631	3,3[illegible]7	14,149	12,953
Other Coal Tar ,,	336	35	1,833	115
Extracts .....Value £	—	—	61,543	63,780
Gambier .....Tons.	245	337	6,101	6,977
Indigo .....Cwts.	234	120	2,897	1,957
Myrabolans .... ,,	30,548	41,799	7,965	9,952
Valonia ..... Tons	880	1,756	9,147	18,300
PAINTERS' COLOURS AND PIGMENTS:				
White Lead ....Cwts.	27,105	23,628	28,617	22,828
Nickel Oxide .... ,,	3,157	1,880	15,235	9,564
Zinc Oxide .... ,,	25,094	25,751	28,663	29,035
Other Sorts ..... ,,	130,405	141,878	77,273	89,096
Total ..... ,,	185,761	193,137	149,788	150,523
MANURES:				
Bones, whether burnt or not ..... tons.	8,428	3,277	20,055	14,876
Guano ..... ,,	6,222	2,926	20,701	18,448
Nitrate of Soda (Cubic Nitre).. ,,	4,461	3,856	51,925	45,215
Phosphate of Lime, and Rock Phosphate ..... ,,	33,677	44,013	46,987	76,129

Continental Notes.

IN the *Chemiker-Zeitung* for November 16, K. Millberg writes on the roasting of copper pyrites and the extraction of the copper without roasting with chlorine. Formerly it was usual always to chlorinate before extracting, but now the endeavour is generally made to render the greater part of the copper soluble in sulphuric acid without further treatment. In the Herreshoff furnace it is not difficult to conduct the process in such a way that 92 to 95% of the copper can be extracted, but with the Maletra furnace it is seldom possible to exceed 80 to 85%.

In order to obtain a satisfactory result, it is necessary that the ore should be finely ground and that the roasting be thorough, otherwise cuprous compounds are formed which are insoluble. In such cases the author recommends that the material should be oxidised by roasting with ferric sulphate. This is done either by adding the ferric sulphate in the lowest shelf of the furnace, or by treating with sulphuric acid, drying, and roasting. The subsequent separation of the copper from the iron and other metals present is performed by fractional precipitation with milk of lime. The iron is first precipitated at a temperature of 40° to 50° C., and then the copper by careful treatment with the lime, precautions being taken that the process is not carried so far that the nickel, cobalt, and other metals are also thrown down. These metals can then be precipitated in the same way.

In the same issue Dr. C. Grimaldi has a paper on the colour reactions of rosin oil (pinolin) with tin and concentrated hydrochloric acid and with Halphen's reagent. These reactions serve to distinguish the material from turpentine, camphor oil, and other similar substances.

The issues of the *Chemiker-Zeitung* for November 20 and 23 contain a paper by R. Zaloziecki and H. Klarfeld on the optical activity of petroleums and its bearing upon the question of origin. A considerable number of samples from different localities were examined in the polarimeter, both as obtained from the wells and also after submitting them to fractional distillation in vacuo. It was found that the higher-boiling fractions from Russian petroleum were mostly active, whereas all the fractions from Pennsylvanian petroleum were as a rule inactive. Of the Galician oils some yielded active distillates and some did not. The authors are of the opinion that these differences are due either to differences in the material from which the oils were originally formed, or to differences in the age of the material, the Pennsylvanian oils being considerably older than the Russian.

In the issue of November 20 there is also a paper by A. von Bartal, on Lancien's radioactive molybdenum compound. The author has prepared "molybdot," UO_2MO_4, but has found that it is no more active than the uranium nitrate from which it has been made. Lancien's statements as to the high degree of activity possessed by this compound were not confirmed.

In the same number H. Schreib discusses the recent developments in the purification of effluents, and deals especially with the waters from sugar factories, potash works, and factories where the sulphite-cellulose process is in operation.

On November 23 J. D. van der Waals celebrated his seventieth birthday, and to the issue of the *Chemiker-Zeitung* for that date J. Traube contributes an article in celebration of the event. He calls attention to the great advances, both in theory and practice, that have followed van der Waal's discovery of the "equation of state." By introducing into the equation connecting volume, pressure, and temperature symbols to represent the co-volume of the atoms and the internal pressure, many phenomena have found an explanation, and it has been possible to calculate approximately some of the properties of the molecules themselves. Van der Waal's fundamental idea is that the gaseous and liquid states only differ from one another in the difference in the distance between the molecules. The calculation of the internal pressures of solid and liquid bodies leads to some interesting figures; the liquids, for instance, lie as a rule between 800 and 3,000 atmospheres at ordinary temperatures, solid gold has an internal pressure of about 180,000 atm., and diamond 5,500,000 atm. The equation of state is also of importance as throwing a light upon the phenomena connected with the critical point, and investigations of these phenomena are now proceeding.

In the same issue there is a description of a single-cylinder pump, with which it is possible to obtain a vacuum of 1 mm.

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EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of chemicals, drugs, dyes, colours, etc., exported during November, 1907, as compared with November, 1906:—

ARTICLES.	QUANTITIES. Month of November. 1907.	1906.	VALUE. Month of November. 1907.	1906.
			£	£
BLEACHING MATERIALS:				
To U.S.A. .....Cwts.	63,776	64,247	14,631	11,785
„ Other Countries „	25,709	25,249	6,077	5,948
Total ..... „	89,485	89,496	20,708	17,733
COAL PRODUCTS, NOT DYES:				
Aniline and Coal Tar Oils .....Cwts.	40,385	95,498	12,860	22,422
Carbolic Acid .. „	7,956	8,602	13,108	13,977
Naphthalene and Anthracene ... „	10,095	4,937	3,435	1,460
Other Sorts .... „	1,296,018	959,808	118,388	91,211
Total .... „	1,354,454	1,068,845	147,791	129,070
COPPER, Sulphate of. Tons	1,359	887	31,127	23,326
CREAM OF TARTAR Cwts.	63	133	263	450
DYE STUFFS:				
Products of Coal Tar ..... „	4,594	5,225	16,665	14,345
Other Sorts ..... „	14,321	20,154	15,130	18,533
Total ... „	18,915	25,379	31,795	32,878
GLYCERINE .....Cwts.	14,433	13,329	31,231	25,790
MANURE (Chemical):				
To Germany .. Tons	2,089	1,927	16,155	19,187
„ Belgium .... „	198	282	567	3,133
„ France .... „	7,373	7,773	32,666	34,170
„ Spain & Canaries „	6,509	7,247	45,647	53,903
„ British West India Islands (including Bahamas) & British Guiana .. „	2,047	1,764	20,428	17,668
„ Other Countries „	25,339	30,618	222,331	198,600
Total .... „	43,555	49,611	337,794	326,661
MEDICINES, COMPRISING DRUGS & MEDICINAL PREPARATIONS: ozs.				
Quinine & Quinine Salts	120,020	61,709	5,515	3,004
Unenumerated. Value £	—	—	138,667	140,682
Total	—	—	144,182	143,686
MURIATE OF AMMONIA ....Cwts.	11,182	15,926	14,582	20,587
PAINTERS' COLOURS AND MATERIALS:				
White Lead ..Cwts	31,977	27,894	39,533	32,717
Nickel Oxide .... „	—	329	—	2,536
Zinc Oxide .... „	8,144	7,364	9,575	7,904
Other Sorts .... „	120,371	121,520	154,653	151,639
Total ..... „	160,492	157,107	203,761	194,796
SODA COMPOUNDS, viz.:				
Soda Ash .....Cwts.	150,170	275,566	34,451	63,962
„ Bicarbonate „	37,531	48,424	11,413	15,116
„ Caustic .... „	137,660	162,440	70,232	80,047
„ Crystals ... „	11,376	22,981	2,073	3,929
„ Sulphate (Saltcake) „	98,782	82,323	9,811	7,204
„ Other Sorts „	46,810	36,843	29,253	14,189
Total ... „	482,329	628,577	157,233	184,447

EXPORTS OF CHEMICALS, DRUGS, DYES, AND COLOURS.—*continued.*

ARTICLES.	QUANTITIES. Month of November. 1907.	1906.	VALUE. Month of November. 1907.	1906.
			£	£
SULPHURIC ACID ..Cwts.	4,424	5,736	1,805	2,504
TARTARIC ACID .. „	270	184	1,291	966
CHEMICALS unenumerated (including Aluminous Sulphates, Carbide of Calcium, and Saltpetre) ....Value £	—	—	250,797	257,589
SALT, Rock and White: (Except Table Salt)				
To Germany ....Tons	172	396	265	268
„ Belgium ..... „	2,360	3,328	1,136	2,002
„ U.S.A. ..... „	2,552	6,981	4,189	6,779
„ British E. Indies „	5,810	13,318	3,764	8,384
„ Australia .... „	—	893	—	515
„ New Zealand . „	441	419	609	845
„ Canada ..... „	6,029	6,737	5,033	5,253
„ Other Countries „	17,929	15,124	14,876	10,968
Total ..... „	35,293	47,196	29,872	35,014

Correspondence.

*** *We do not hold ourselves responsible for the opinions expressed by our correspondents.*

POWDERED AND LIQUID BLUE FOR LAUNDRY PURPOSES.

(To the Editor of the Chemical Trade Journal.)

SIR,—Can you or any of your readers enlighten us, through your correspondence columns, on the following point, respecting powdered blue and liquid blue for laundry purposes?

So far as we are aware, the only perfectly satisfactory blue on the market contains Prussian blue and oxalic acid. Although oxalic acid is a scheduled poison, and is contained in most of the blues on the market, the authorities have not yet put the Poisons Act in force by making a conviction.

Are we running any risk in going with the trade in using oxalic acid in the manufacture, or do you consider that, seeing our trade is principally with grocers, we should not send it out?

We may add that our sole object is to sell a good article, the question of cost not being considered by us.—Yours, etc.,

INQUIRER (GLASGOW).

THE COPPER POSITION.—Messrs. Henry R. Merton and Co., in their weekly report on copper, say:—Trade on this side of the Atlantic is still satisfactory. The electrical business, the main outlet for copper, has revived in a marked degree, especially on the Continent, and numerous orders have been given out during the last few weeks. Other branches have also benefited by the lower level of values, and better reports are received from the brass trades, while the constant increase of requirements by railways is bringing work to rollers and tube manufacturers. In addition to this, India has again entered the market, and placed fair orders for copper and yellow metal sheets. On the other hand, the low prices are telling upon the supplies from countries like Australia, Japan, and Chili, and not a little has been diverted to China. Europe is, therefore, in a position to receive more copper from the States, and though it may take some time to distribute the large quantities which have been shipped over here and are still coming, the surplus is not very important, considering that consumers are still refraining from laying in stocks under present monetary conditions. The shifting of the accumulation in America leaves only the current output for home requirements, and, reduced as these are at present, they should be enough to absorb what is not booked for export, seeing that many mines have closed down and others are producing considerably less than previously. In Europe, also, electrolytic copper has steadily risen, and the Amalgamated Company have again been doing a large business.

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THE NEW CUSTOMS TARIFF OF THE DOMINION OF NEW ZEALAND.

A SUPPLEMENT to the *Board of Trade Journal* of November 21 contains the full text of the "Tariff Act, 1907," of the Dominion of New Zealand, which was assented to on September 25 last. This Act, so far as relates to the rates of duty, came into force on July 17th, 1907, and makes various amendments in the proposals originally submitted to Parliament.

We give below a special abstract of the Tariff. The Act provides that where any dispute arises as to the true meaning and application of any terms used in the Tariff, and therein printed in italics, the Minister of Customs may determine such dispute in such manner as appears to him just, and his decision thereon shall be final.

SCHEDULE A.

Names of Articles.	Old Rates of Duty.		New Rates of Duty.	
	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.
CLASS I. *Foods and Articles for Human Consumption.*				
Glucose and caramel .. ..the lb.	Glucose 1d., brewers' caramel 3d., other caramel 15% ad val.	Glucose 1d., brewers' caramel 3d., other caramel 15% ad val.	1d.	1d.
Vinegar, not exceeding 6.5% of acidity, calculated as Acetic acid .. .. the gallon	6d.	6d.	7⅗d.*	**6 l.**
CLASS V. *Drugs, Medicines, Chemicals, and Druggists' Sundries.*				
Acid, acetic, containing not more than 30% of acidity, the lb.	1½d.	1½d.	1½d.	1½d.
Acid, acetic, containing more than 30% of acidity, for every 10% of acidity or fraction thereof .. .. the lb.	½d.	½d.	½d.	½d.
Acid, tartaric .. .. the lb.	1d.	1d.	1d. up to Oct. 31, 1907, thereafter free.	
Cream of tartar .. .. the lb.	1½d.	**1d.**	1½d. up to Dec. 31, 1907, thereafter free.	**1d. up to Dec. 31, 1907, thereafter free.**
Saccharin, not otherwise enumerated, *including substances of a like nature or use* .. .. .. the ounce	1s. 6d.	1s. 6d.	1s. 6d.	1s. 6d.
Soda, bicarbonate .. .. the cwt.	1s.	1s.	1s. up to Oct. 31, 1907, thereaft. free.	
Soda crystals .. .. the cwt.	2s.	2s.	2s. 4⅕d.*	**2s.**
Chemicals, and chemical preparations, not otherwise enumerated, including photographic chemicals, not otherwise enumerated; also anti-incrustation, boiler and other compounds .. .. ad val.	15%†	15%†	30%*	**20%**
Glycerine, *refined* .. .. ad val.	20%	20%	30%*	**20%**
Medicinal preparations, drugs, and druggists' sundries, and apothecaries' wares, not otherwise enumerated; also aerated water makers' and cordial manufacturers', and brewers' drugs, chemicals, and other sundries, not otherwise enumerated .. .. ad val.	15%†	15%†	30%*	**20%**
Saccharin, in the form of tablets, pilules, granules, or cachets, each containing not more than ½ grain of saccharin in combination with at least 10% of alkali, ad val.	15%	15%	30%*	**20%**
CLASS XII.				
Iron, plain, galvanised, sheet or hoop .. the cwt.	1s. 6d.	1s. 6d.	1s. 9⅜d.*	**1s. 6d.**
Iron tanks for every 100 gallons, or fraction of 100 gallons, in holding capacity	Of and under 200 gals. 5s. Above 200 and not above 400 gals. 10s.		3s.*	**2s. 6d.**
Lead, in sheets .. .. the cwt.	1s. 6d.	1s. 6d.	1s. 6d. up to Oct. 31, 1907; thereafter free.	1s. 6d. up to Oct. 31, 1907; thereafter free.
Lead piping .. .. the cwt.	3s. 6d.	3s. 6d.	4s. 2⅜d.*	**3s. 6d.**
CLASS XIV. *Oils, Paints, etc.*				
Oils in vessels capable of containing one gallon of oil or more—namely, vegetable oils .. .. the gallon	6d.	6d.	6d. up to Oct. 31, 1907, thereafter free.	6d. up to Oct. 31, 1907, thereafter free.
Oil—namely, crude petroleum, crude residual oil, once-run shale oil, once-run petroleum oil .. .. the gallon	Kerosene, benzine, and once-run shale, suitable for gas-making, free, other mineral, 6d.		½d.	½d.
Oil, not otherwise enumerated, including mineral lubricating *oil*, in vessels capable of containing one gallon or more .. .. the gallon			7⅕d.*	**6d.**
Paints and colours, ground in oil or turpentine; also putty, and *driers*, not otherwise enumerated .. the cwt.	Paints, etc., 2s. 6d., putty 2s., driers free.	Paints, etc., 2s. 6d., putty 2s., driers free.	3s.*	**2s. 6d.**
Paints and colours *mixed ready for use*; also enamel paints not otherwise enumerated .. .. .. the cwt.	Enamel paints 2s., other 5s.	Enamel paints 2s., other 5s.	6s.*	**5s.**

* The rate of duty given under the "General Tariff" will not come into force until after the 31st March, 1908. Up to that date the lower or preferential rate of duty will be levied on goods of both British and Foreign production or manufacture.

† Water-hardening chemicals for brewers' use and food preservatives, etc., free.

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Names of Articles	Old Rates of Duty. General Tariff.	Old Rates of Duty. Tariff on Goods the Produce or Manufacture of some part of the British Dominions.	New Rates of Duty. General Tariff.	New Rates of Duty. Tariff on Goods the Produce or Manufacture of some part of the British Dominions.
Stearine .. .. the lb.	For match-making ¾d., other 1½d.	For match-making ¾d., other 1½d.	9/16d.*	¾d.
Varnish and lacquers, including lithographic varnish, gold-size, liquid gold, and other metallic paints; also liquid medium for mixing with metallic paints .. the gallon	Varnish and gold size, 2s.	Varnish and gold size, 2s.	2s. 4½d.*	2s.
Whiting and chalk .. .. the cwt.	1s.	1s.	1s. 2⅗d.*	1s.
Axle grease and other *solid lubricants*, petroleum *greases*, and mixtures of the same with other substances, n.o.e. .. ad val.	20%	20%	30%*	20%
Oils in vessels having a lesser capacity than one gallon. ad val.	In bottle, 15%, otherwise 6d. the gall.	In bottle, 15%, otherwise 6d. the gall.	20%	20%
CLASS XVI. *Miscellaneous.*				
Blue .. .. the lb.	2d.	2d.	1⅗d.*	1d.
Candles .. .. the lb.	1⅗d.	1d.	2⅕d.	1½d.
Cement, Portland, and other structural and building cement. the barrel	4s.	2s.	4s.	2s.
Gelatine, isinglass, glue and size .. .. .. the lb.	Gelatine and isinglass, 20% ad val., glue and size, 1½d.	Gelatine and isinglass, 20% ad val., glue and size, 1½d.	1⅗d.*	1¼d.
Matches—Wooden, in boxes containing not more than 60 matches .. .. the gross of boxes	1s.	1s.	1s. 6d.*	1s.
In boxes containing over 60 and not more than 100 matches .. .. the gross of boxes	2s.	2s.	3s.*	2s.
In boxes containing more than 100 matches, for every 100 matches or fraction thereof contained in one box .. .. the gross of boxes	2s.	2s.	3s.*	2s.
Wax "plaid vestas" in cardboard boxes, containing under 100 matches .. .. the gross of boxes	1s.	1s.	1s. 6d.*	2s.
"Pocket vestas," in tin or other boxes, containing under 100 matches .. the gross of boxes	1s. 4d.	1s. 4d.	2s.*	1s. 4d.
Wax, other kinds, for every 100 matches or fraction thereof, contained in one box .. the gross of boxes	2s. 3d.	2s. 3d.	3s. 4½d.*	2s. 3d.
Matches of any material other than wood or wax, a duty corresponding to the duty payable on wooden matches.				
Paraffin wax .. .. the lb.	¾d.	¾d.	1d.	1d.
Powder, sporting .. .. the lb.	6d.	6d.	6d. up to Oct. 31, 1907, thereafter free.	6d. up to Oct. 31, 1907, thereafter free.
Soap, common yellow and blue mottled .. the cwt.	5s.	5s.	6s.*	5s.
Spirits, methylated to the satisfaction of the Minister. the liquid gallon	1s.	1s.	1s. 2⅗d.*	1s.
Spirits, cleared from warehouse, methylated, under prescribed conditions, the liquid gallon, not including the added naphtha or other methylating material	6d.	6d.	6d.	6d.
Starch .. .. the lb.	2d.	2d.	2⅖d.*	2d.
Wax, mineral, vegetable, Japanese, and beeswax .. the lb.	Beeswax free, other 1½d.	Beeswax free, other 1½d.	1d.	1d.
Blacklead .. .. ad val.	20%	20%	30%*	20%
Fireworks, not otherwise enumerated .. ad val.	20%	20%	30%*	20%
Soap powder, extract of soap, dry soap, soft soap, liquid soap, soap solutions and washing or cleansing powders, crystals, pastes and liquids .. .. .. ad val.	Soap powder, extract of soap, dry soap, soft soap, & washing powder 20%, other kinds not tariffed.		20%	20%
Soap, not otherwise enumerated .. .. ad val.	25%	25%	37½%*	25%

* The rate of duty given under the "General Tariff" will not come into force until after the 31st March, 1908. Up to that date the lower or preferential rate of duty will be levied on goods of both British and Foreign Production or manufacture.

SACCHARINE LITIGATION.—In the High Court of Justice, Dublin, on the 12th ult., before the Master of the Rolls, an application was heard at the suit of the Saccharin Corporation, Ltd., Belfast, for liberty to strike out the defence by Messrs. Holmes, aerated water manufacturers, Belfast, to an action brought by plaintiffs, on the ground that defendants had failed to answer certain questions put by the Court. The action was to restrain defendants from infringing plaintiffs' patent by importing, using and selling in Ireland saccharin made in accordance with the plaintiffs' specification and in a manner only colourably differing from same. The desired order was made by the Court.

THE OUTPUT OF COAL.—The Board of Trade return on the coal trade of the world, which has just been issued, shows that 837,100 persons were employed in the coal mining industry of the United Kingdom during the year 1906, the figures for other countries being:—United States, 626,300; Germany, 493,300; France, 171,500; and Belgium, 134,700. As regards the output per person employed, the United States had first place with an output of 560 tons per person, the United Kingdom second place with 280 tons; followed by Germany, France, and Belgium with 242 tons, 202 tons, and 159 tons respectively. The total production of coal in the United Kingdom for 1906 was 251,068,000 tons, America being first with 379,672,000 tons.

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IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums imported during November, 1907, as compared with November, 1906:—

ARTICLES.	QUANTITIES. Month of November. 1907.	QUANTITIES. Month of November. 1906.	VALUE. Month of November. 1907.	VALUE. Month of November. 1906.
OIL SEEDS.				
COTTON:			£	£
From Egypt .Tons	65,599	451,53	459,676	309,026
,, Other Countries . ,,	14,602	15,435	85,546	87,426
Total ... ,,	80,201	60,588	545,222	396,452.
FLAX OR LINSEED:				
From Russia .Qrs.	54,733	38,301	118,441	77,190
,, U.S.A. . ,,	134	1,000	282	2,004
,, Argentine Republic . ,,	47,114	13,154	101,038	27,455
,, British East Indies ,,	53,525	34,918	121,627	71,224
,, Other Countries . ,,	4,592	16,587	10,711	33,439
Total ... ,,	160,098	103,960	352,099	211,312
RAPE:				
From Russia .Qrs.	1,217	2,208	2,524	3,696
,, British East Indies ,,	14,683	5,901	31,982	12,398
,, Other Countries . ,,	2,427	180	6,366	482
Total ... ,,	18,327	8,289	40,872	16,576
OILS, REFINED:				
Cocoanut..Cwts.	7,736	15,925	14,016	25,807
Cottonseed Tons	1,832	1,171	54,560	27,728
Olive.....Tuns	236	332	10,857	15,252
Palm.....Cwts.	748	180	1,179	277
Total Value £	—	—	80,612	69,064
OILS.				
Fish(train,blubber and Sperm) Tuns	1,888	2,005	37,040	36,887
Cocoanut, unrefined....Cwts.	40,715	28,010	67,427	44,827
Olive ,, Tuns	74	385	2,787	13,078
Palm ,, Cwts.	98,124	70,139	130,810	83,192
PETROLEUM:				
Crude ....Gls.	—	200	—	13
Lamp Oils .. ,,	13,874,316	12,879,041	256,618	210,030
Spirit .... ,,	4,040,894	2,870,353	122,405	87,463
Lubricating Oils ... ,,	3,275,120	4,791,646	107,804	137,828
Gas Oil ... ,,	6,703,459	6,403 647	95,617	83,887
Fuel Oil .... ,,	155,166	2,252,174	2,150	26,176
Total of Petroleum ,,	28,048,955	29,197,061	584,594	545,397
SEED OIL:				
Cotton-seed Tons unrefined .. ,,	3	100	60	2,172
Linseed pure ,,	1,186	2,042	28,692	40,856
,, not pure ,,	56	32	1,022	680
Rape-seed ,,	726	967	23,400	27,641
Other Sorts ,,	487	443	16,486	15,087
TURPENTINE Cwts.	21,482	63,003	35,578	144,040
SOAP STOCK ,,	6,798	5,187	4,548	2,517

IMPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.—*Continued.*

ARTICLES.	QUANTITIES. Month of November. 1907.	QUANTITIES. Month of November. 1906.	VALUE. Month of November. 1907.	VALUE. Month of November. 1906.
TALLOW AND STEARINE:			£	£
From France Cwts.	3,142	5,899	6,150	8,900
,, U.S.A. .. ,,	20,810	46,979	30,874	71,100
,, Argentine Republic ,,	19,419	15,846	32,403	28,672
,, Australia ,,	31,823	55,681	52,784	88,611
,, New Zealand ,,	7,485	8,462	12,426	14,486
,, Other Countries ,,	10,834	8,231	18,277	13,771
Total... ,,	93,513	141,098	152,914	225,540
GUM:				
ARABIC ....Cwts.	7,532	10,652	11,621	13,576
LAC-DYE, SEEDLAC, SHELLAC, and STICKLAC ..Cwts.	7,039	6,883	52,510	67,727
ROSIN ....Cwts.	109,279	187,812	59,379	99,634

EXPORTS OF OIL SEEDS, NUTS, OILS, FATS, AND GUMS.

THE following returns, which are taken from the foreign and colonial statistics of the United Kingdom, give the amount and value of oil seeds, nuts, oils, fats, and gums exported during November, 1907, as compared with November, 1906:—

ARTICLES.	QUANTITIES. Month of November. 1907.	QUANTITIES. Month of November. 1906.	VALUE. Month of November. 1907.	VALUE. Month of November. 1906.
GREASE, TALLOW, AND ANIMAL FAT ...Cwts.	79,729	58,087	£ 109,956	£ 71,944
OILS, Refined:				
Cocoanut - - Cwts.	287	1,277	717	1,899
Cottonseed - - Tons	3,194	2,880	87,262	67,171
Olive - - Tuns	17	16	2,130	1,245
Palm - - Cwts.	1,011	1,408	1,467	2,118
Total. Value £	—	—	91,576	72,433
OILS:				
Cocoanut, Unrefined Cwts.	5,921	2,405	9,950	3,983
Olive ,, ,, Tuns	—	12	—	450
Palm ,, ,, Cwts.	21	618	35	959
OIL, SEED:				
To Germany ....Tons	46	26	1,224	616
,, Netherlands ,,	10	5	213	91
,, Belgium .... ,,	43	43	1,079	1,036
,, Austria-Hung. ,,	3	6	70	117
,, Egypt .... ,,	157	198	4,100	4,306
,, Brazil .... ,,	211	268	5,648	5,923
,, British India ,,	160	169	4,553	3,560
,, Straits Sts. ,,	6	48	192	1,274
,, Ceylon .... ,,	7	3	202	65
,, Australia .. ,,	666	279	19,886	6,707
,, Canada .... ,,	50	176	1,295	3,576
,, Other Co'tries ,,	1,357	1,521	41,013	36,405
Cottonseed Oil, Unrefined .....Tons	7	11	188	224
Linseed Oil:				
Pure ..... ,,	1,708	1,963	48,707	43,749
Not Pure ..... ,,	203	241	5,472	5,198
Rapeseed Oil .. ,,	487	445	16,610	12,833
Other Seed Oils ,,	311	82	8,498	1,672
Total .... ,,	2,716	2,742	79,475	63,676
SOAP STOCK Cwts.	2,568	2,504	3,250	2,779

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THE NEW PATENTS ACT.

(*Continued from page 497.*)

PART II.—DESIGNS.

Legal Proceedings.

60.—(1.) During the existence of copyright in any design it shall not be lawful for any person—

(*a*) For the purposes of sale to apply or cause to be applied to any article in any class of goods in which the design is registered the design or any fraudulent or obvious imitation thereof, except with the licence or written consent of the registered proprietor, or to do anything with a view to enable the design to be so applied; or

(*b*) Knowing that the design or any fraudulent or obvious imitation thereof has been applied to any article without the consent of the registered proprietor to publish or expose or cause to be published or exposed for sale that article.

(2.) If any person acts in contravention of this section he shall be liable for every contravention to pay to the registered proprietor of the design a sum not exceeding fifty pounds, recoverable as a simple contract debt, or if the proprietor elects to bring an action for the recovery of damages for such contravention, and for an injunction against the repetition thereof, he shall be liable to pay such damages as may be awarded, and to be restrained by injunction accordingly:

Provided that the total sum recoverable as a simple contract debt in respect of any one design shall not exceed one hundred pounds.

61.—The provisions of this Act with regard to certificates of the validity of a patent, and to the remedy in case of groundless threats of legal proceedings by a patentee shall apply in the case of registered designs in like manner as they apply in the case of patents, with the substitution of references to the copyright in a design for references to a patent, and of references to the proprietor of a design for references to the patentee, and of references to the design for references to the invention.

PART III.—GENERAL.

Patent Office and Proceedings thereat.

62.—(1.) The Treasury may continue to provide for the purposes of this Act and the Trade Marks Act, 1905, an office with all requisite buildings and conveniences, which shall be called, and is in this Act referred to as, the Patent Office.

(2.) The Patent Office shall be under the immediate control of the comptroller, who shall act under the superintendence and direction of the Board of Trade.

(3.) Any act or thing directed to be done by or to the comptroller may be done by or to any officer authorised by the Board of Trade.

(4.) Rules under this Act may provide for the establishment of branch offices for designs at Manchester or elsewhere, and for any document or thing required by this Act to be sent to or done at the Patent Office being sent to or done at any branch office which may be established.

63.—(1.) There shall continue to be a comptroller-general of patents, designs, and trade marks, and the Board of Trade may, subject to the approval of the Treasury, appoint the comptroller, and so many examiners and other officers and clerks, with such designations and duties as the Board of Trade think fit, and may remove any of those officers and clerks.

(2.) The salaries of those officers and clerks shall be appointed by the Board of Trade, with the concurrence of the Treasury, and those salaries and the other expenses of the execution of this Act and the Trade Marks Act, 1905, shall continue to be paid out of money provided by Parliament.

64.—Impressions of the seal of the Patent Office shall be judicially noticed and admitted in evidence.

Fees.

65.—There shall be paid in respect of the grant of patents and the registration of designs, and applications therefor, and in respect of other matters with relation to patents and designs under this Act, such fees as may be, with the sanction of the Treasury, prescribed by the Board of Trade, so, however, that the fees prescribed in respect of the instruments and matters mentioned in the First Schedule to this Act shall not exceed those specified in that Schedule.

Provisions as to Registers and other Documents in Patent Office.

66.—There shall not be entered in any register kept under this Act, or be receivable by the comptroller, any notice of any trust expressed implied or constructive.

67.—Every register kept under this Act shall at all convenient times be open to the inspection of the public, subject to the provisions of this Act and to such regulations as may be prescribed; and certified copies, sealed with the seal of the Patent Office, of any entry in any such register shall be given to any person requiring the same on payment of the prescribed fee.

68.—Reports of examiners made under this Act shall not in any case be published or be open to public inspection, and shall not be liable to production or inspection in any legal proceeding, unless the court or officer having power to order discovery in such legal proceedings certifies that such production or inspection is desirable in the interests of justice, and ought to be allowed.

69.—(1.) Where an application for a patent has been abandoned, or become void, the specifications and drawings (if any) accompanying or left in connection with such application, shall not, save as otherwise expressly provided by this Act, at any time be open to public inspection or be published by the comptroller.

(2.) Where an application for a design has been abandoned or refused the application, and any drawings, photographs, tracings, representations, or specimens left in connection with the application shall not at any time be open to public inspection or be published by the comptroller.

70.—The comptroller may, on request in writing accompanied by the prescribed fee,—

(*a*) correct any clerical error in or in connection with an application for a patent or in any patent or any specification;

(*b*) cancel the registration of a design either wholly or in respect of any particular goods in connection with which the design is registered;

(*c*) correct any clerical error in the representation of a design or in the name or address of the proprietor of any patent or design, or in any other matter which is entered upon the register of patents or the register of designs.

71.—(1.) Where a person becomes entitled by assignment, transmission, or other operation of law to a patent, or to the copyright in a registered design, the comptroller shall, on request and on proof of title to his satisfaction, register him as the proprietor of a patent or design.

(2.) Where any person becomes entitled as mortgagee, licensee, or otherwise to any interest in a patent or design, the comptroller shall, on request and on proof of title to his satisfaction, cause notice of the interest to be entered in the prescribed manner in the register of patents or designs, as the case may be.

(3.) The person registered as the proprietor of a patent or design shall, subject to the provisions of this Act and to any rights appearing from the register to be vested in any other person, have power absolutely to assign, grant licences as to, or otherwise deal with, the patent or design and to give effectual receipts for any consideration for any such assignment, licence, or dealing: Provided that any equities in respect of the patent or design may be enforced in like manner as in respect of any other personal property.

72.—(1.) The court may, on the application in the prescribed manner of any person aggrieved by the non-insertion in or omission from the register of patents or designs of any entry, or by any entry made in either such register without sufficient cause, or by any entry wrongly remaining on either such register, or by an error or defect in any entry in either such register, make such order for making, expunging, or varying such entry as it may think fit.

(2.) The court may in any proceeding under this section decide any question that it may be necessary or expedient to decide in connection with the rectification of a register.

(3.) The prescribed notice of any application under this section shall be given to the comptroller, who shall have the right to appear and be heard thereon, and shall appear if so directed by the court.

(4.) Any order of the court rectifying a register shall direct that notice of the rectification be served on the comptroller in the prescribed manner, who shall upon the receipt of such notice rectify the register accordingly.

(*To be continued.*)

CAMPHOR IN INDIA.—In Southern India the Government is offering the fullest encouragement to planters to undertake the cultivation of camphor in the Nilgiris.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Condensing Vapours and Gases. E. Wiart. 26,052. November 25.
Colouring Matters Containing Sulphur. J. Y. Johnson. 26,053 Nov. 25.
De-sulphurising of Gases. F. Bauke. 26,056. November 25.
Caseine. R. Desgeorge and F. Lebreil 26,080. November 25.
Explosives. P. Winand 26,261. November 27
Soap Manufacture. A. Hym. 26,270. November 27.
Brominated Indigos. O. Imray. 26,275. November 27.
Products from Highly Brominated Indigos. O. Imray. 26,276. Nov. 27.
Evaporating Apparatus. A. H. McDonald and F. H. Nickle. 26,314. November 28.
New Resin-like Products. P. A. Newton. 26,317. November 28.
Briquettes. W. A. P. Davis. 26,319. November 28
Separation of Minerals from Ores. A. A. Lockwood and M. R A. Samuel. 26,363. November 28.
India-rubber Substitutes. T. R. Douse. 26,365. November 28
Recovery of Ammonia in Gas Producer Plants. E S. Mond. 26,537. November 30.
Halogenised Di-bromindigos. O. Imray. 26,538. November 30.
Soap Manufacture. E. V. Schou. 26,540. November 30.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Diamino-naphthalene and Derivatives thereof. Thorpe. 24,553.
Producing Oxides of Nitrogen by Electric Process. Moscicki 27,006.
Artificial Leather. Boult. 28,806.
Obtaining Oxide Fumes from Ores and Furnace Products Oettinger 29,156.

1907.

Red Vat Dyestuff. Imray. 2,592.
New Azo Colouring Matters. Newton. 4,413.
Separating Copper from Acid or Neutral Solutions. Boult. 7,698.
Viscose. Soc. Francaise de la Viscose. 8,179.
Vat Colouring Matters. Johnson. 10,541.
1-phenyl-2-3-dimethyl-4-dimethylamino-pyrazolone. Scheitlin. 13,383.
Coke Ovens. Wise. 16,786.
Respirators. Jaubert. 17,237.
Solvent for Calcareous Fur Deposit. Schmidt. 19,792.
Nitrogen Oxides. Spitzer. 22,201.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Separation of Zinc from its Ores or Compounds H. L. Sulman, 44, London Wall, London. British Patent, 21,672. October 1, 1906.

The inventor claims :—(1.) In the separation of zinc from its ores or compounds, converting the zinc into oxide, treating the product with a solution of sulphurous acid so as to obtain a solution of bisulphite of zinc and precipitating the zinc as insoluble monosulphite by the addition of zinc oxide to the solution. (2.) The process of separating zinc from its ores, which consists in roasting the ore to convert the zinc into zinc oxide and yield sulphurous acid, treating the product with a solution of sulphurous acid so as to obtain a solution of bisulphite of zinc, precipitating the zinc as monosulphite by the addition of zinc oxide to the solution, and calcining the monosulphite to yield zinc oxide and sulphurous acid, which is used repeatedly. (3.) The method of carrying into practice the process covered by the previous claims, in which the precipitation of the zinc monosulphite by means of zinc oxide is effected in a tube mill or other apparatus in which the mixture is subjected to attrition in order to prevent incrustation of the zinc oxide by the insoluble zinc monosulphite. (4.) The complete process for separating zinc from its ores, compounds and products, substantially as described.

Improvements in the Separation of Zinc from its Ores or Compounds. H. L. Sulman, 44, London Wall, London. British Patent, 22,534. October 11, 1906

This process is a variation of that described in Specification 21,672 of 1906. The claims are :—In the separation of zinc from its ores or compounds, converting the zinc into oxide, treating the product with a solution of sulphurous acid so as to obtain a solution of bisulphite of zinc and precipitating the zinc as insoluble monosulphite by passing a current of air through the solution. (2.) The process of separating zinc from its ores, which consists in roasting the ore, if necessary, to convert the zinc into zinc oxide and yield sulphurous acid, treating the product with a solution of sulphurous acid so as to obtain a solution of bisulphite of zinc, precipitating the zinc as monosulphite by passing a current of air through the solution, and calcining the monosulphite to yield zinc oxide and sulphurous acid, which is used repeatedly. (3.) The complete process for separating zinc from its ores, compounds and products, substantially as described.

Improvements in the Manufacture of Tanning Extracts and in Tanning. D. Stewart, 19, Ardross Street, Inverness. British Patent, 5,438. March 6, 1907.

The process consists in adding sulphite liquors from the manufacture of paper pulp, the ash of which contains not more than 6% of iron calculated as FeO, to tanning extracts or tannin-containing materials or to aqueous solutions of tannin-containing materials.

Improvements in Pulverising or Grinding Mills. J. W. Fuller, junr., Catasauqua, Lehigh Co., Pennsylvania, U.S.A. British Patent, 7,143. March 25, 1907.

This invention relates to pulverising or grinding mills of the type in which the finely divided material is carried through the mill by a current of air, the coarser material being separated therefrom by baffles, and led back to the grinding rolls.

An important feature of the invention is the provision of superposed rotating wings or blades in a suction chamber arranged at different angular positions with respect to each other, so as to lift the finely divided matter vertically from the grinding means and then force it transversely or radially from the suction chamber into the separating chamber. A further feature of the invention is the improved means provided for controlling flow of air through the apparatus.

Improvements in Lime Kilns. W. J. Efford, Hall Cottage, Wouldham, near Rochester, and E. H. Dabner, Scarborough Villa, Burham, Kent. British Patent, 9,553 April 24 1907.

The inventors claim :—(1.) A lime kiln having a flue round its crown and communicating with the interior of the kiln, the said flue opening at opposite ends into two flues common to a range of kilns, and opening into an uptake, each of the kilns having a vertical flue opening at its lower end into the ash-pit, and at its upper end into a flue communicating with one of the two above-mentioned flues, which are common to the range, all the flues and openings being provided with suitably placed dampers whereby the heated gases from a burning kiln or several burning kilns can be shunted into a drying kiln or several drying kilns. (2.) A lime kiln having at one end a chalk feeding hopper and shoot, and at the other end a fuel-supplying hopper and shoot.

Improved Process of Purifying the Gases from Pyrites-burners G. Eschellman, Chimischeski Perenlok Haus No 5 St. Petersburg, and Ges der Tentelewschen Chemischen Fabrik, Wasnessenski 6, St. Petersburg. British Patent, 12,213. May 27, 1907.

The inventors claim :—The process of purifying the gases from pyrites burners, characterised by the fact that the gases, after passage through dust-chambers and following through apparatus for indirect cooling, are caused to pass first in upward direction through a coke filter, the grains of which decrease in thickness from bottom to top, and subsequently in downward direction through a fine-grained coke-filter, and that the gases thus filtered are finally washed with a weak solution of an alkali hydrate or with a weak milk of an alkaline earth.

RUSSIAN MERCURY.—The quantity of mercury smelted in Russia for the first ten months of this year is reported by the *Torg. Prom. Gazeta* at 6,875 poods, against 10,949 poods in the corresponding period of last year. The same journal makes the announcement that in the Verchotursk district, on the Vagran Government estate, mercury deposits have been discovered.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Dec. 11.
120,000	1		Bell's Asbestos ... ord	1 13/16 1 15/16
	Stock	10c	Bo ax Consol 4½% deb. stock red	106½
80,000	10	10	Do 5½% cum. pref.	10⅜
1,356,477	1	1	Bradford Dyers ... ord.	23/-
1,50 ,000	1	1	Do. ... 5% c.p.	21/-
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	38/6
10,000	10	10	Do. ... 6% c.p.	11 5/16
1,962,870	1	1	Brunner, Mond and Co. ord.	5
82 678	10	10	Do. 7% pref	16⅛ 16⅜
96,000	5	5	Bryant and May ... c.p.	12¼
40.000	10	10	Buxton Lime Firms ord.	6 6½
352,500	5/-	5/	Cassel Cyanide Co., Ltd. ,,	24/
450,000	1	1	Castner Kellner ... ,,	25/9 26/3
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3⅝ 3⅞
6,000	6	3	Cleveland Salt ... 6% m.p.	2⅝ 2⅞
20,000	10	10	Crosfield J., and Sons c.p	9⅞ 10
85,000	1	1	Fletcher, Russell, & Co. ord	28/- 28/6
5,000	10	10	Do. 6% c.p.	11¾ 12
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94⅜
50,000	10	10	India Rubber Co. ... ,,	14¼
	5	5	Lagunas Nitrate ... ,,	3 3¼
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11 11½
200,000	10	10	Lever Bros. ... 5% c.p.	10¼ 10½
400,000	10	10	Manchester Ship Canal ord.	20,6 20/9
400.000	10	10	Do. per 5% pref.	30/6
120,000	1	1	Mandelberg J. & Co. ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	9 9½
228,540	10	10	Nobel Dynamite Trust ,,	15 3/32
	10	10	Do. share warrants	15 1/32
200,000	1	17/	Oakbank Oil, Ltd. ... ord.	33/9
	1		Pears, A. and F. ... ,,	30/9
70,000	10	10	Pease and Partners ... ,,	11¼ 11¾
37,500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/	Pumpherston Oil, Ltd. ,,	13
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	66⅜
2,500	7½	7½	Robin and Houston ... 5% c.p.	76/6
196,962	1	14/8	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	18/9
100,000	6	6	Do. ... 7% n.c.p.	4 1/2 4¾
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	11/16 13/16
	1	1	Schibaieff Petroleum ,,	5/32 7/32
£6,250,000	Stock	100	South Metropolitan Gas ,,	121
45,000	10	10	Steiner, F and Co. 5% c.p.	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6¼
289,343	10	10	United Alkali ... ord	78/-
282.524	10	10	Do ... 7% pref.	11 11⅛
80,000	1	1	United Indigo & Chemical ord	3/- 3/6
66,666	5	5	Willans and Robinson ,,	1 3/16 1 5/16
210.000	1	1	Woolcombers ... 7% c.p.	19/4½
113,202	4	4	Young's Paraffin ... ord.	71/6

SERIOUS EXPLOSION AT A POWDER WORKS.—On Thursday last two men were killed and much damage resulted through an explosion at the Worsborough Dale Powder Mills of Messrs. Kynoch, Limited, near Barnsley. The cause of the explosion is at present unknown.

AMALGAMATION IN THE COAL TRADE.—It is announced that the Ocean Coal Company and Messrs. Wilson, Sons and Co., a large firm of distributors at Cardiff, have agreed to amalgamate. It is stated that the capital in the concern will shortly amount to £3,500,000.

PLATINUM IN CANADA.—The platinum industry in British Columbia is reported to be making good progress. It is stated that a French company recently acquired considerable land in the platinum district, and are having this territory carefully examined by experts. Other companies have also secured ground, which is to be exploited.

NEW YORK PRICES CURRENT.

NOV. 26, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 50
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 6⅜
,, Picric	,,	0 22
,, Tartaric	,,	0 27¾
Arsenic, white powdered, English	,,	0 6¼
,, ,, ,, Continental	,,	0 6¼
Ammonia, Carbonate, lump	,,	0 7⅝
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds ..	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 30
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 5¼
Potassium, Bichromate	,,	0 8⅝
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 15½
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 95
,, Prussiate	per lb.	0 9¼
Sulphur, Brimstone (best thirds)	per ton	20 0

Market Reports.

THE RUSSIAN CHEMICAL MARKETS.

The St. Petersburg chemical report of November 28 states that for the latter half of the month no particular change had to be noted in the prices of chemicals; several items show a rising tendency, however. Values were:—Nitric acid, 36° Bé., 3 roubles to 3r. 20c.; borax crystals, 4r. to 4r. 80c.; white lead, 5r. to 5r. 15c.; sulphate of aluminium (common), 65c. to 75c.; chloride of lime, 1r. 45c. to 1r. 60c.; red prussiate of potash, 30r.; salammoniac, 7r. 50c. to 7r. 80c.; potash (Saratoff), 2r. 75c. to 2r. 85c.; Chili saltpetre, 1r. 95c. to 2r.; ammoniacal soda, 1r. 35c. to 1r. 40c.; caustic soda, 2r. 65c.; muriatic acid (technical), 60c. to 70c.; tartaric acid, 24r. 50c. to 25r. 50c.; superphosphate, 10 to 17%, 65c. to 70c.; red lead, 4r. 85c. to 5r. 10c.; sulphur (in lumps), 1r. to 1r. 5c.; sulphuric acid, 66° Bé., 85c. to 95c.; bichromate of potash, 8r. 40c. to 8r. 50c.; bichromate of soda, 7r. 25c. to 7r. 50c.; ether (0.725), 8r. 50c. to 9r. 50c.; collodion, 4%, 13r. 50c. to 14r. 50c.; all per pood of 36 lbs.

The Moscow chemical market report of December 4 states that Batavian indigo is quoted at 100 roubles, and Bengal at 70r. to 85r.; sulphate of copper, 5r. 50c. to 5r. 75c.; Russian calcined soda, 1r. 20c. to 1r. 30c.; Russian caustic soda, 2r. 60c. to 2r. 75c.; lump sulphur, 1r. 15c. to 1r. 20c.; Chili saltpetre, 2r. 20c. to 2r. 25c.; gum tragacanth (selected), 45r. to 48r., firsts 41r. to 43r., and thirds 9r. to 12r.; American colophony, 3r.; Russian tannin, 32r. to 33r., in grains, and powder 22r. to 23r. 50c.; tartar emetic (Russian), 19r. to 20r. 80c.; citric acid, 39r. to 41r.; aniline oil, 14r. 75c. to 15r. 15c.; castor oil (technical), 7r. 70c. to 7r. 90c.; tartaric acid, 24r. to 24r. 50c.;

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all per pood of 36 lbs. Cutch, light lumps, 4r. 40c. to 4r. 50c., and refined cubes, 5r. 70c. to 5r. 85c.

Advices from the Warsaw chemical market, dated November 29, state that the market there is without any substantial change. During the two past months the prices of wood spirit (95-96°) has fallen to 9r. 50c.; nitric acid, 36° Bé., is quoted 3r. 50c.; borax crystals, 4r. 90c.; white lead, 5r. 80c.; sulphate of aluminium, 1r. 20c.; chloride of lime, 1r. 50c.; red prussiate of potash, 32r.; sulphate of copper, 7r. 35c.; potash (Saratoff), 3r. 15c.; Chili saltpetre, 2r. 18c.; Russian turpentine, 4r. 25c.; ammonia soda, 1r. 50c.; caustic soda, 3r. 20c.; muriatic acid (technical), 76c.; tartaric acid, 28r.; citric acid, 47r.; red lead, 5r. 90c.; refined sulphur, 1r. 80c.; sulphuric acid, 66° Bé., 1r. 2c.; acetic acid, 8r. 40c.; bichromate of soda, 9r. 60c.—all per pood of 36 lbs.

THE INDIGO MARKET.

Messrs. Millward and Co. report as follows, under date December 11:—

A moderate business continues, at steady prices, chiefly for export. The home trade is very quiet, with consumers operating only to cover actual requirements, pending more definite news concerning the Calcutta auctions. The financial situation is also naturally deterring buyers for stock. At the same time, there are indications that a better demand will not long be delayed. No public sales have yet been held in Calcutta, the railway strike making a late start inevitable. Some transactions have taken place privately for early shipment at about Rs.5 above last season's rates. The larger proportion of medium qualities, especially of red kinds, should encourage a revived interest amongst home-trade buyers, and only moderate prices are needed to make things on this market more active. Guatemala continues scarce and dear. Java is in rather better supply, but is still relatively high in price. Kurpah prospects are not favourable, and the small stocks at present held should realise well. Deliveries from London, January-November, were 2,859 chests, against 3,139 chests last year. Stocks on December 5 were 2,106 chests and 135 serons, against 1,860 chests and 334 serons last year.

THE AMERICAN CHEMICAL MARKET.

(Rate of Exchange, $4.86\frac{1}{2} = £1.$)

NEW YORK, November 26, 1907.

Nitrate of soda is very dull at $2.35. to $2.40. per 100 lbs. Sulphate of ammonia is unchanged at $3.05. per 100 lbs. Grey muriate, for galvanising, is offered at 5¾c. to 6c., as to make. White electrical muriate is selling at 5¾c. to 6c. Lump sal ammoniac, good white seconds, is steady at 9¼c. per lb. Lump carbonate of ammonia is 7¾c. to 8c. Bleaching powders range from $1.15. to $1.25. Alkali is steady at 90c. per 100lbs., f.o.r. makers' works, for light, 58%, in bags, while caustic soda is dull at $2.10. per 100 lbs. Sulphate of copper may be had at 5¼c., although the Syndicate still quotes 5½c. per lb. White powdered arsenic is cheaper, at 6¼c. per lb., to arrive, and 6½c. per lb., for prompt. Red Saxony arsenic is firm at 7½c. per lb. Carbonate of potash, calcined, 80-85%, is 3¾c. to 4c.; hydrated, same test, is 4¾c. Caustic potash, 75%, is 4¼c. Chlorates of potash and soda are respectively 8¾c. to 8½c. per lb., f.o.r. makers' works. Bichromate of soda is 7¾c., and bichromate of potash 8¾c., freight paid to various points. Prussiate of potash is quite dull at 15½c., while soda remains fairly strong at 9c. to 9¼c. Oxalic acid is much cheaper on spot, sales having been made down to 6¾c. per lb.; the weakening influence seems to be the offers by a new American maker. Antimony compounds generally are firm, but dull. Naphthaline balls for next year are now being offered at $2.10. per 100 lbs., and flakes at $2.05.

TAR AND AMMONIA PRODUCTS.

Thursday.

Benzols quiet, with quotations given at 8¼d. to 8¾d. for 90's, and 8¼d. to 8½d. for 50-90's, casks included. Crude tar, 13s. 6d. to 17s. 6d. per ton, Thames; 1¼d. to 1¾d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 23s. to 23s. 6d., f.o.b.; Gas Company, 25s.; East Coast, 21s. 3d. to 21s. 9d.; West Coast, 20s. 3d. to 21s. 3d., f.a.s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 9¾d. to 10d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 4d. to 1s. 5d.; 60%, 1s. 7d. to 1s. 8d.; Crystals, 39-40, 5d. to 5¼d.; 34-35, 4¾d. to 5d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45%A, 1½d. to 1¾d., casks included. Pyridin, 4s. to 4s. 3d.

Sulphate of ammonia weak. Nearest values are:—Beckton, spot and forward, £12. 5s.; Beckton terms, £11. 15s. to £11. 10s. 3d.; London, £11. 15s.; Hull, £11. 16s. 3d. to £11. 17s. 6d.; Liverpool, £11. 17s. 6d. to £11. 18s. 9d.; Manchester, £11. 15s. to £11. 17s. 6d.; Leith, £12. 2s. 6d. to £12. 3s. 9d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 6d.; Liverpool, ordinary, 11s. 1½d., and refined, 11s. 3d. Official quotations:—Cargoes off coast or due, 10s. 11d.

FERTILISER MATERIALS.

Thursday.

Little interest is shown in the purchase of manure material, manufacturers having for the most part covered their requirements, and, there being no relaxation of money stringency, there is no disposition to operate further.

Nitrate of soda is very quiet, and prices are easier, quotations being now 10s. 10½d. per cwt. for 95%, and 11s. 1½d. per cwt. for refined quality.

Some little business is reported done in East Indian bone meal from the quay, at £5. per ton, less 2½% discount. For shipment, however, £5. per ton, nett, c.i.f. terms, Liverpool, is required, but this price at present prohibits business altogether.

Mineral phosphates of all grades remain unchanged.

THE LONDON METAL MARKETS.

Wednesday.

Copper: Standard brands, £59. 5s. to £59. 10s. cash, and £60. 10s. to £60. 15s. for three months. Tin: G.M. quality, £125. 10s. to £126. cash, and £126. 10s. to £127. three months; English, £128; Banca, fl.78. Lead: Soft foreign, December, £14. 5s.; January, £14. 5s.; February-March, £14. 7s. 6d.; English, £14. 15s. Spelter: Ordinary brands, December, £20. 15s.; January, £20. 10s.; and March, £20. ex ship; hard, £17., f.o.b. Antimony, £33. to £35.; ore, £9. to £9. 10s. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £100. Wolfram, 23s. to 25s. Pig-iron closing prices. Cleveland, 49s. 1½d. cash; 48s. 7½d. one month; 48s. 3d. three months.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

Business, both for home and export account, is reported quiet generally, but upon the whole there is no indication of any weakness in the markets, and prices all round remain firm, both for spot and future deliveries. Sulphate of copper shows some slight variation in correspondence with the metal market, and latest quotations stand at £22. 5s., f.o.b. Bleaching powder is steady in price, at £4. 5s. to £4. 7s. 6d., f.o.b. Chlorates, 3½d. and usual conditions. Alkali, in bags, £4. 10s., f.o.r. Caustic soda, 70%, £10. 5s. per ton, f.o.b. Soda crystals, 57s. 6d. per ton, in bags. Saltcake is steady at 42s. 6d. per ton in bulk, carriage paid. Glauber salts, from 35s. to 37s. 6d. per ton, f.o.r. Sulphur is in steady demand, at £4. 17s. 6d. to £5., f.o.r. Acetate of lime is steady, at £11. 10s., c.i.f. for 80%. Acetic acid, 60%, £19. 10s., ex ship and for U.K. works. White sugar of lead, £28. 10s. Brown sugar of lead, £25. Acetate of soda, £17. 10s. White powdered arsenic, £27. to £28., according to brand. Green copperas very scarce and firm, at 40s., delivered. Muriate of ammonia steady, at £24. 10s. Prussiates are in fair demand, at 3¾d. and 5¾d. Potash, caustic and carbonate, continue in steady request, and prices remain firm.

LIVERPOOL OIL MARKET.

Thursday.

OILS.—Palm oil exceedingly steady; sales reported, including hard oils for December delivery, at £27. 5s., soft oils on spot at £28., and for December delivery £28. 5s., and Lagos, on spot, at £28. 10s. per ton, all in transit. Linseed oil quiet, at 23s. 9d. to 24s. 6d. per cwt. for Liverpool makes in export casks. Cotton-seed oil firm, at 24s. 6d. to 25s. 6d. per cwt. for Liverpool refined in export barrels. Tallow inactive. Turpentine in moderate demand, at 35s. 9d. per cwt. for spot parcels. Petroleum in moderate inquiry, at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon, with fair business passing.

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LIVERPOOL DRYSALTERIES.

WEDNESDAY.

Dealings in Montreal potashes are limited, but with a firm tone prevailing, and quotations given at 36s. 9d. to 37s. per cwt. Pearl ash nominal in absence of stocks. Logwood in moderate demand, but little business is passing in fustic. Cutch steady. Castor oil dull, but steady at 3¾d. for first pressure French, 3⅝d. for good seconds Calcutta, 3½d. for second pressure French, and 3 7/16d. per lb. for first pressure Belgian. Calcutta forward parcels, December-January shipment, 3½d. per lb. Gambier: quay parcels offering at 21s. 6d., with store lots at 22s. to 22s. 6d.; October-November shipment, 20s. 3d.; November-December shipment, 19s. 6d.; and December-January shipment, 18s. 6d. Cubes, 29s. to 29s. 6d. per cwt., for store lots; October-November shipment, 28s.; and November-December and December-January shipment, 27s. 9d. per cwt. Shellac dull: Fair TN orange, on spot, quoted at 120s. to 122s. 6d., and January-February shipment, 119s. Glucose steady. American liquid, 43%, 11s. 9d. on spot, and 11s. 3d. for January-March delivery; and January-March shipment, 9s., c.i.f., for shipment. Chips, 80%, for shipment, 9s., and 70%, 9s., c.i.f. American powdered starch, 11s. on spot, and 10s. 6d., c.i.f., for shipment. Pearl, 10s. 7½d. on spot, and 10s., c.i.f. for shipment. Cream of tartar 98%, foreign powder, 87s.; 95%, 85s. Tartaric acid: English, 11d. to 11¼d. on spot, and foreign, 11d. Citric acid: English, 1s. 8d.; foreign, 1s. 8d.

TYNE CHEMICAL REPORT.

THURSDAY.

Market steady, with a fairly good demand for the period of the year. Caustic soda is firm at £10. 5s. per ton for 70%, and £11. per ton for 76-77%. Bleaching powder steady, at £5. to £5. 5s. per ton. Soda crystals, locally, £3. per ton. Sulphur scarce and firm, at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton, nett; carbonate of alumina, £10. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—The coal market continues steady for prompt loading, and prices are well held with full loading terms to end of the month. To-day's quotations:—Best Northumbrian steam, 15s. to 16s. per ton; second qualities, 14s. to 14s. 6d. per ton; small steam coals, 8s. to 8s. 6d. per ton; best gas coals, 14s. to 15s. per ton; Durham bunker coals, 12s. 9d. to 13s. 6d. per ton; coking small coals, 12s. to 12s. 6d. per ton; household coals, 16s. to 17s. per ton; foundry coke, 19s. to 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, WEDNESDAY.

Sulphate of ammonia has become still easier, and is indeed very idle for the moment. It is believed that as low as £12. has been taken for spot, f.o.b. Leith, but other makers, who are well sold forward, ask £12. 2s. 6d. Deferred delivery business is a blank, makers' quotations being much above the ideas of any possible buyers. Sulphate of copper has been unsettled and uncertain, but losing, if anything. In the ordinary chemicals, business has improved a little, inquiry both for prompt and forward being more in evidence. Values remain practically the same. The influence of the forthcoming holiday season will begin to make itself felt almost directly, in a general slowing down. Paraffins and mineral oils all remain very firm, and particularly in the delivery of burning oils, ex contracts, the daily movement is now considerable.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2½d. to 3d., naked, f.a.s. Glasgow; nitrate of soda 11s. 1½d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2⅜d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 7d.; ordinary sorts, 6¾d. and 6½d. (for new spot business), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. 2s. 6d. to £12. 3s. 9d, prompt, f.o.b. Leith; sulphate of copper, £22., less 5% Liverpool, prompt.

New Companies.

British Mexican Copper Syndicate, Ltd.—Capital £10,000., in 9,850 ordinary shares of £1. each and 3,000 founders' shares of 1s. each. This syndicate has been formed to carry on the business of copper and general miners, etc. No initial public issue. The subscribers are to appoint the first directors. Qualification, £100. Remuneration, 5% of the net profits, divided. Registered office, 55, Holborn Viaduct, E.C.

Cuzco Copper and Silver Co., Ltd.—Capital £3,000., in 2,925 preferred ordinary shares of £1. each and 3,000 deferred ordinary shares of 6d. each. This company has been formed to adopt an agreement with the Box Syndicate, Ltd., to acquire mineral and other properties in America and elsewhere. No initial public issue. The subscribers are to appoint the first directors. Qualification (except first directors, who require none), 100 shares. Remuneration, £100. each per annum (chairman, £150.) and a share in the profits. Registered office, 62, London Wall, E.C.

Dry Products Syndicate, Ltd.—Capital £15,000., in £1. shares. This company has been formed to adopt an agreement with the Central Egg Co., Ltd., J. Mecredy, and D. M. A. G. Hawes for the acquisition of certain interests in an invention for the reduction of liquids or semi-liquids to powder. No initial public issue. The first directors are J. E. Hubbard, W. Thornton, D. M. A. G. Hawes, and E. Yatman. Qualification, £250. Remuneration (except managing director) £100. each per annum, and 5% of the profits, divided.

Greek Iron Ore Corporation, Ltd.—Capital £120,000., in £1. shares. This company has been formed to acquire for £20,000., in shares, the benefit of agreements (1, 2, and 3) between G. Polygenis and P. Skinses, (4) between M. Stamatopoulos and the Societe Hellenique des Mines, (5) between A. Crokidas and A. C. Matsas, (6 and 7) between O. D. Stefanou and S. Desposito and L. Depian, and (8) between C. Scoumbourdi and A. Grigoriou and S. Desposito and L. Depian, so far as they relate to an iron mine in the Commune of Larymnos, Department of Phtiotide, Greece, and to carry on the business of iron and general miners, etc. Minimum cash subscription, 1,000 shares. The first directors are H. Verge, G. Chabert, W. Thiebaut and Baron J. de Catelin, all of Paris. Qualification, £250. Remuneration (except managing director) £400. per annum and 10% of the surplus net profits after 5% has been paid on the issued shares, divided. Registered office, 56, Cannon-street, E.C.

Liverpool Manganese Co., Ltd.—Capital £65,000., in £1. shares (5,000 preference). This company has been formed to acquire the interest of J. Washington and J. Irvine in certain manganese mines or land in Kilfaughnabeg, Co. Cork. No initial public issue. The first directors are to be appointed by the subscribers. Qualification, £250. Remuneration, £275. per annum and 7½% of any surplus profits after 10% is paid on the ordinary shares, divided.

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Rebelj and Vis Copper Mines, Ltd.—Capital £25,000., in £1. shares. This company has been formed to acquire the benefit of a concession or lease granted by the Government of Servia to the Anglo-Servian Syndicate, comprising the Rebelj and Vis mines in the Canton and District of Veljewo, Servia, and to carry on the business of copper and general miners, prospectors, etc. No initial public issue. The first directors are J. J. Abell, R. T. B. Stewart, Chedo Mijatovich, General L. Lazarevitch, G. A. Howell, and A. D. M. Tucker. Qualification, £200. shares or stock.

Salis Syndicate, Ltd.—Capital £6,100., in £1. shares (6,000 "A" and 100 "B"). This company has been formed to promote or concur in promoting a company for the acquisition of the benefit of an invention or inventions relating to the purification of common rock salt, and various British and foreign patents and rights in connection therewith, to acquire and turn to account any beds, springs, or supplies of salt or brine, etc. No initial public issue. The subscribers are to appoint the first directors. Remuneration, two guineas each per board meeting attended. Each "A" share confers one vote, and each "B" share 20 votes. The "A" shares rank first for dividends up to an aggregate of £12. 10s. per share (in cash or in shares of the proposed company). Afterwards the "B" shares take all surplus profits.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	Balloons.	Cbys.	Carboys.	Gals. Gls.		Qnty.	Quantity (otherwise undeclared).	qr.	Quarters.
Bls.	Bales.	Css. or Cs.	Cases.	or Gins.	Gallons.			lb.	Pounds.
Brls.	Barrels.	Cks.	Casks.	Hf. pps.	Half pipes.				
Bgs.	Bags.	Chts.	Chests.	Hhds.	Hogsheads.	Rnlts.	Runlets.		
Btls.	Bottles.	Cylds.	Cylinders.	Kgs.	Kegs.	Sks.	Sacks.		
Bdls.	Bundles.	Dms.	Drums.	Ozs.	Ounces.	Slbs.	Slabs.		
Bskts.	Baskets.	Djns.	Demijohns.	Pks.	Packages.	Tcs.	Tierces.		
Bxs.	Boxes.	Frkns	Firkins.	Pns Puns.	Puncheons.	t. c.	Tons, Cwts.		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Week ending November 28.

Acetic Acid —

Holland,	83 pks.	Greeff & Co.
,,	30	Muller & Co.
,,	25 blns.	,,
,,	8 cks.	,,
Norway,	17	Biggs & Co.

Acetone —

Germany,	€533	F. A. Tye
U.S.A.,	880	Nobel's Expl. Co.

Alum—

Germany,	3 cks.	H. Lorenz

Alumina Sulphate —

Holland,	€1,750	Muller & Co.

Aluminium—

Holland,	€556	Ohlenschlager Bros.

Ammonium Muriate —

Holland,	€26	A. & M. Zimmermann
,,	80	H. Lorenz

Antimony Ore—

N.S.W.,	11 t.	Spence & Co.

Arsenic—

Portugal,	€400	G. S. N. Co.
Germany,	85	P. Jantzen

Barium Peroxide—

Holland,	€202	London & Rhine S. Office

Barytes—

Germany,	300 bgs.	Burrell & Co.
Holland,	52 cks.	Taylor Bros.
,,	130	W. Ostermann & Co.
,,	133	Felton & Crepin
,,	152	Lyon & Co.
Belgium,	203	R. W. Greeff & Co.
,,	137	Felton & Crepin
Germany,	71	,,
,,	46	W. Harrison&Co.
Holland,	33	J. Greig
,,	101	J. D. Budd
Germany,	250	W. Harrison & Co.
Holland,	200	,,
Belgium,	45	Taylor Bros.
,,	20	R. W. Greeff & Co.
Holland,	250 bgs.	Thames S. T. & L. Co.

Bleaching Powder—

France,	25 t.	Steel & Co.

Bog Ore —

Holland,	80 t.	Hawkins & Co.

Bone Meal —

E. Indies,	150 t.	Fox, Rox&Co.
Arg. Rep.,	35	Nelson & Sons

Bromine—

Germany,	70 cs.	A. & M. Zimmermann

Calcium Carbide—

Norway,	7 t. 9 c.	J. Spurling

Camphor —

Japan,	20 cs.	R. Warner & Co.
China,	85	,,

Caoutchouc —

U.S.A.,	11 c.	T. L. Field & Co.
Germany,	2 t. 6	Clarke & Smith
,,	5 12	Props. Bull Wf.
France,	2 11	L. & I. D. Jt. Co.
,,	1 11	France, Fenwick & Co.
,,	1 8	Prop. Hay's Wf.
Burmah,	9	L. & I. D. Jt. Co.
Ceylon,	1 19	,,
Denmark,	19	S. Figgis & Co.
Germany,	1 15	L. & I. D. Jt. Co.
,,	3 3	Prop. Hay's Wf.
Ceylon,	2	L. & I. D. Jt. Co.
Straits,	18	Weber, Smith & Hoare
U.S.A.,	8	Props. Bull Wf.
Holland,	5 2	L. & I. D. Jt. Co.
Germany,	15	Major & Field
P. E. Africa,	9	Leach & Co.
Belgium,	13	Major & Field
Germany,	2 2	Baxter, Hoare & Co.
,,	6 5	Wallace Bros.
France,	10	S. Figgis & Co.
,,	12	H. Kiver & Co.
,,	5	Props. Bull Wf.
,,	1 6	L. & I. D. Jt. Co.
Straits,	5 7	,,
,,	18	Props. Bull Wf.

Carbon Black—

U.S.A.,	200 brls. 200 cs.	Binney & Smith

Carbonic Acid Gas—

Holland,	£112	Zimmermann & Co.

Castor Oil —

France,	15 brls.	Weber, Smith & Co. Smith & Hoare
Italy,	5 cs.	Major & Field
Belgium,	6 brls.	Atkins & Nisbet
Italy,	25 cs.	Hill & Hodgkinson

Caustic Potash—

France,	28 dms.	J. Barber & Co.
Germany,	5 cks.	Argo S.S. Co.
Sweden,	30 cs.	G. Atkinson & Co.
Germany,	55 dms.	Steel & Co.

Chemicals (*otherwise undescribed*)

Germany,	€70	Argo S.S. Co.
,,	219	T. H. Lee
Belgium,	12	A. M. Hutchings
France,	12	Johnson, Sons & Co.
Belgium,	16	J. Cockerill Line
Holland,	11	R. Herrmann
Germany,	21	Prop. Hay's Wf.
Belgium,	5	J. Cockerill Line
,,	20	Atkins & Nisbet
France,	120	T. H. Lee
,,	14	Mory & Co.
Germany,	39	L. & I. D. Jt. Co.
,,	426	A. & M. Zimmermann
France,	8	Symons & Co.
Holland,	25	Greeff & Co.
Germany,	6	Sutton & Co.
,,	16	R. Herrmann
Holland,	11	London & Rhine S. Office
Belgium,	11	Leach & Co.
U.S.A.,	100	B. & F. Wf. Co.
Belgium,	5	United S. Co.
,,	7	D. C. Thomas

Coal Products—

Belgium,	10 pks.	J. Cockerill
,,	11 bgs.	Line
Germany,	4 cs.	L. & I. D. Jt. Co.
Italy,	6 pks.	Friend & Co.
,,	5	J. Cockeril, Line

Pitch

Belgium,	11 cks.	J. Harrison
France,	115	Hill & Sons

Tar

Germany,	100 brls.	Beard & Son

Colours —

Germany,	28 pks. 13 cs.	Argo S.S. Co.
France,	14	J. Spurling
U.S.A.,	99 pks.	Lunham & Moore
Germany,	9 cks. 6 cs.	L. & I. D. Jt. Co.
Holland,	1	Phillipps & Graves
,,	45 bgs.	Taylor Bros.
,,	18 pks. 2 cks.	T. H. Lee ,,
Belgium,	4	Burrell & Co.
Holland,	31	Van Dam & Co.
Holland,	50 bgs.	Luke & Bailey
,,	12 cks. 5 cs.	Harrison & Co.
France,	9 cks.	Johnson & Co.
Germany,	4	Barber & Co.
Holland,	46 cks.	O. Lechla

Colours—

U.S.A.,	10 brls.	Fielder, Hickman & Co.
Italy,	100 bgs.	Mercantile Litharge Co.
Holland,	1 ck. 9 cs.	London & Rhine S. Office
France,	2	Leach & Co.
Belgium,	2 cks.	Bergen & Sons
,,	15	J. Cockerill Line
,,	48 pks.	,,
Germany,	3	Argo S.S. Co.
U.S.A.,	15	G. W. Sheldon
Holland,	2 cks.	Atkins
,,	5 cs.	& Nisbet

Colours (Earth)—

Italy,	6 brls.	Taylor Bros.
Germany,	50 bgs.	Zach Cartwright, Ld.
,,	6 cks.	Zumbeck & Co.
Italy,	4 brls.	S. Bowley & Son
Holland,	2 cks.	Van Dam & Co.
Germany,	4 brls.	Prop. Hay's Wf.
Italy,	9	Nicholson's Wys.
Holland,	50 bgs.	J. Greig
,,	4 cks.	Muller & Co.
,,	123 pks.	,,
Holland,	6 cks. 50 bgs.	Ldn. & Rhine S. Office
Italy,	8 brls.	Bauer & Co.
,,	4 cks.	Nicholson's Wys.
,,	1	Muller & Co.
Germany,	20	Taylor Bros.
,,	20 bgs.	,,

Copperas —

Germany,	£35	Nicholson's Wys., Ld.

Copper Ore—

Holland,	2 t.	Phillipps & Graves

Cottonseed Oil —

U.S.A.,	64 brls.	Prop. Hay's Wf.
,,	35	Weber, Smith & Hoare
,,	1,050 trcs.	W. Manning
,,	25 brls.	L. & I. D. Jt. Co.

Cream of Tartar—

Holland,	20 cks.	W. C. Bacon & Co.
,,	18	A. & M. Zimmermann
France,	5	B. & F. Wf. Co.
Germany,	8	Greeff & Co.
Holland,	24	Kirkpatrick, Barr & Paton

Dyestuffs—

Argols

Spain,	325 bgs.	Jacob & Sons
Italy,	745	,,
France,	93	,,

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Dyestuffs—

Argols
Burmah, 461 bgs. Thames S. T. & L. Co.

Bark Extract
U.S.A., 25 cks. S. Barrow & Bros.
France, 100 ,,

Chestnut Extract
Italy, 125 brls. Erith
Dartford L. Co.

Cutch
Holland, 540 cs. Baxter, Hoare & Co.
Burmah, 150 Union Ltge. Co.

Dyewood Extract
U.S.A., 25 bxs. Pronk, Davis & Co.

Gambier
Straits, 256 bls. J. Greig

Indigo
E. Indies, 17 chts. F. J. Nathan & Co.
,, 29 Parsons & Keith

Myrabolans
E. Indies, 1,000 pks. S. Barrow & Bros.
,, 468 bgs. E. J. Winser & Co.

Quebracho Extract
France, 100 cks. Levinstein & Sons

Saffron
Spain, 1 cs. Nicholson's Wvs.
,, 5 H. Rubeck
,, 2 A. & M. Zimmermann

Sumac
Italy, 500 bgs. Knight Bros.
,, 100 Garner & Sons
,, 150 France, Fenwick & Co.
,, 600 J. Kitchin

Sumac Extract
Belgium, 44 cks. Sheldon & Co.

Tanners' Bark
Natal, 20 t. J. Graves
,, 45 Baxter, Hoare & Co.
,, 64 J. T. Rennie, Son & Co.

Tanners' Extract
A.-Hung., 104 brls. Boutcher, Mortimore & Co.

Tannin Extract
Aust.-Hung., 34 brls. F. Claydon & Co.

Valonia
A. Turkey, 10 t. A. & W. Nesbitt
,, 10 J. Graves
,, 153 A. Brooksbank & Sons
,, 12 G. & H. Green
,, 50 Lowe & Turkey
France, 8 bls. Weldo Burton & Sons

Farina—
Holland, 40 t. Bennett Hge. Co.
,, 19 14 c. Duche & Sons
,, 3 W. S. Exp. Co.
,, 20 Barber & Co.
,, 1 Van Dam & Co.

Formaldehyde—
Holland, £21 T. H. Lee

Glue—
Germany, £30 Craven & Co.
,, 123 Murray & Co.
U.S.A., 70 W. Davis
,, 246 Anglo-American Oil Co.
Holland, 30 London & Rhine S. Office
France, 15 Watt & Sons
,, 250 Leiner & Sons
,, 122 Symons & Co.
,, 590 Bennett S.S. Co.
Germany, 22 Prop. Hay's Wf.
Holland, 32 Muller & Co.
,, 34 Barber & Co.
,, 246 Hernu, Peron & Co.
,, 143 Van Dam & Co.
A.-Hung., 1,200 L. & I. D. Jt. Co.
Belgium, 274 Duche & Sons
,, 92 Thomas & Son
U.S.A., 9 W. Davis

Glue Stock—
France, 1 t. 3 c. Goad, Rigg & Co.
Italy, 19 14 H. C. Staples

Glycerine—
Germany, £6 Prop. Hay's Wf.
Victoria, 372 H. Hill & Son
Germany, 8 F. Boehm

Gold Ore—
U.S.A., a qty. Forwood Bros.

Lead Ore—
Natal, 45 t. Rennie & Co.

Linseed Oil—
Holland, 1 brl. Muller & Co.
,, 59 Hopwood & Co.

Lithopone—
Belgium, 96 cks. Lyon & Co.
Holland, 41 J. F. Lauderdale
,, 64 F. T. H. Nye
,, 8 Muller & Co.

Magnesite—
E. Indies, £46 Rock Mfg. Co.

Magnesium Chloride—
Germany, £35 J. F. Ebner

Manganese Ore—
Germany, 2 t. Gilbert & Co.

Manganesite—
Germany, £59 Argo S.S. Co.

Manure—
E. Indies, 200 t. Lawes Chem. Manure Co.

Ochre—
France, 50 cks. Taylor Bros.
,, 4 Berger & Sons
,, 20 brls. H. Burman

Olive Oil—
Italy, 2 t. Butler's Wf.
,, 31 gals. A. C. Lloyd
France, 50 Hernu, Peron & Co.
Italy, 38 E. Lloyd & Co.
,, 88 Nicholson's Whvs.
France, 108 Gill & Duffus
,, 1 L. & I. D. Jt. Co.
Italy, 2 70 ,,
,, 2 156 Zetterquist & Harvey
,, 2 Hill & Co.
,, 3 L. & I. D. Jt. Co.
France, 25 189 F. Boehm
,, 174 L. & I. D. Jt. Co.
,, 2 126 Minter & Co.
,, 184 Ferminger & Co.

Oxalic Acid—
Holland, 5 cks. Greeff & Co.

Paraffin Scale—
U.S.A., 225 t. 19 c. Anglo-American Oil Co.
,, 11 12 Union Ltge Co.

Paraffin Wax—
Germany, 1 t. 2 c. Prop. Hays Wf.
E. Indies, 13 8 Lucas & Spence's Wf.
Burmah, 25 Hill & Sons
Holland, 3 10 Phillipps & Graves

Phosphate of Lime—
Tunis, 2,365 t. Hunter, Lomer & Co.

Plumbago—
Italy, 100 bgs. Hill Jones
Ceylon, 762 G. R. Haller
Belgium, 37 brls. Hall & Co.
,, 62 Hindley & Co.
,, 86 Mackindley & Co.

Potassium Carbonate—
Belgium, 1 ck. Charles & Fox
Canada, 10 ,,

Potassium Chlorate—
France, 100 kgs. O. Murray & Co.
Germany, 100 H. G. Thomas

Potassium Permanganate—
Germany, 20 cks. Dormer, Dunn & Dale

Potassium Prussiate—
Germany, 1 ck. J. Owen

Potassium Sulphate—
Germany, 700 bgs. Perkins & Homer
,, 1,500 Berk & Co.

Pyrogallic Acid—
Holland, 1 cs. Muller & Co.
Germany, 20 A. & M. Zimmermann

Red Lead—
Holland, 60 cks. Lyon & Co.
,, 64 Felton & Crepin
,, 3 Muller & Co.
,, 38 A. & M. Zimmermann
,, 7 F. Nye
France, 150 brls. Watt & Son

Ripolin—
Holland, 30 pks. Phillipps & Graves

Rosin—
U.S.A., 600 brls. Prod. Brokers Co.
France, 51 cks. Rosin & Turp. Impt. Co.
U.S.A., 100 brls. Watt & Son
France, 150 cks. ,,

Saltpetre—
Germany, 40 t. P. Hecker & Co.

Silver Nitrate—
Germany, £300 Millwall Dk. Co.

Silver Ore—
U.S.A., £72 Forwood Bros.
,, 1,550 Ackerley & Son

Soap—
France, £42 Tennant's Wf.
,, 47 Beresford & Co.
U.S.A., 10 W. Kershaw

Soap Powder—
U.S.A., £330 Mercantile Ltge. Co.

Soda—
Germany, 5 t. H. Lorenz
,, 6 5 c. T. H. Lee
,, 1 14 A. & M. Zimmermann
,, 3 Millwall Dk. Co.
Holland, 10 A. Kempin
France, 14 T. H. Lee
Holland, 92 Muller & Co.
Germany, 10 Berk & Co.
,, 3 Steel & Co.
N.S.W., 1 17 L. & I. D. Jt. Co.

Sodium Acetate—
France, 5 t. J. Harrison

Sodium Bicarbonate—
Holland, 21 t. 6 c. Claydon & Co.

Starch—
France, 15 t. 10 c. A. C. Hitchcock
,, 5 Barber & Co.
Germany, 4 Barr, Moerring & Co.
Holland, 2 Kay & Mayo
,, 18 5 Little & Johnston
,, 45 1 Muller & Co.
Belgium, 5 Leach & Co.
,, 10 J. Harrison
Aust.-Hung., 15 16 Sheldon & Co.
Holland, 19 5 Barber & Co.
Belgium, 6 5 B. & F. Wf. Co.
U.S.A., 37 10 Bennett Haulage Co.
France, 5 C. E. Wood

Stearine—
France, 150 bgs. Boor & Co.
,, 10 Hill & Sons
Belgium, 88 G. Jennings

Strontium Nitrate—
Holland, £135 London & Rhine S. Office

Sulphur—
Italy, 10 t. Petri Bros.
,, 7 18 c. Sparks White & Co.
,, 8 8 F. Smith
,, 3 16 Symonds & Co.
,, 4 14 G. Boor & Co.
,, 40 Fuerst Bros.
,, 15 F. C. Devon

Sulphuric Acid—
Belgium, 200 t. Anglo-Cont. Guano Wks.

Talc—
France £44 Blackwell, Sons & Co.

Tallow—
N. Zealand, 29 cks. L. & I. D. Jt. Co.
U.S.A., 50 tres. ,,
Victoria, 12 cks. H. Hill & Sons
N. Zealand, 27 Flack, Chandler & Co.
,, 674 Goad, Rigg & Co.
,, 27 Weber, Smith & Hoare
,, 207 Leach & Co.
,, 51 Dalgety & Co.
,, 2 Bank of N.Z.
,, 67 Thornett & Fehr.
,, 2 Sanderson, Murray & Co.

Tartaric Acid—
Holland, 18 cks. B. & F. Wf.
,, 40 kgs. Co.
Italy, 100 cks. ,,
Holland, 6 Kirkpatrick, Barr & Co.

Thorium Nitrate—
Germany, £308 Argo S.S. Co.
,, 690 T. H. Lee

Tin Crystals—
Holland, £26 J. Barber & Co.

Tin Ore—
Spain, 7 t. Hoare, Wilson & Co.
Natal, 10 Rennie & Co.

Turpentine—
France, 100 brls. Watt & Son
N. Russia, 50 London Oil S.Co.

Ultramarine—
Germany, 4 cks. Taylor Bros.
,, 4 Blundell, Spence & Co.
Holland, 4 Taylor Bros.
,, 5 Muller & Co.
,, 8 cs. ,,
Holland, 2 Muller & Co.
Germany, 5 Argo S.S. Co.

Wax—
Germany, 1 cs. Hale & Son
,, 7 pks. Clark & Smith
,, 40 bgs. T. H. Lee
,, 40 Craven & Co.
Belgium, 100 D. C. Thomas & Son
Holland, 25 Muller & Co.
Germany, 12 L. & I. D. Jt. Co.
Egypt, 24 pks. Brandt & Co.
Germany, 73 Cook & Co.
,, 64 Wallace Bros.
Belgium, 25 bgs. Fuerst Bros.
,, 20 Muller & Co.
France, 11 cs. A. Chiris
,, 4 cks. Figgis & Co.
,, 1 L. & I. D. Jt. Co.
Germany, 36 bgs. London & Rhine S. Office
,, 261 M. Dk. Co.
,, 25 F. Boehm

White Lead—
Belgium, 104 cks. T. & W. Farmiloe
Germany, 10 S. Bowley & Son
,, 9 12 cs. Argo S.S. Co.
Belgium, 14 Lyon & Co.
Holland, 139 T. & W. Farmiloe
,, 3 Muller & Co.
Germany, 42 Randall Bros.
Holland, 6 F. Nye
Germany, 25 Burrell & Co.
,, 42 Taylor Bros.
France, 60 brls. Watt & Son

Wolfram Ore—
Spain, 17 t. Hoare, Wilson & Co.

Zinc Ore—
Natal, 54 t. Rennie, Sons & Co.

Zinc Oxide—
U.S.A., 450 brls. M. Ashby
Holland, 100 ,,
,, 27 cks. F. T. H. Nye
,, 27 Muller & Co.
France, 5 brls. Cooper & Co.

Zinc White—
Holland, 25 cks. Perkins & Homer
,, 15 J. Owen

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LIVERPOOL.

AMENDMENT.

C.T.J., No. 1068, p. 432, Nov. 9.—**Wolfram Ore.** Hong Kong, 2,191 bgs. *should read* 191 bgs.

Week ending November 30.

Acetic Acid—
Antwerp, 60 crbys.

Antimony Ore—
Melbourne, 937 cks.

Arsenic—
Oporto, 30 cks.

Asbestos—
Rotterdam, 7 pks.

Barium Sulphate—
Antwerp, 300 bgs. / 83 cks.

Barytes—
Antwerp, 58 cks.
Rotterdam, 25 pks.

Bone Dust—
Zarate, 1,189 bgs.

Bone Meal—
Karachi, 5,095 bgs.

Bones—
Jaffa, 130 bgs.

Chemicals (*otherwise undescribed*)
Dunkirk, 129 cks.
Rotterdam, 3 pks.
Rouen, 62
Bordeaux, 50

Cobalt Chlorate—
Rouen, 2 pks.

Colours—
Rotterdam, 6 pks.

Copper Ore—
Brisbane, 1,490 bgs.
Adelaide, 100
Singapore, 1,623

Copper Precipitate—
Huelva, 500 bgs.

Cottonseed Oil—
N. Orleans, 510 brls.

Cream of Tartar—
Bordeaux, 20 cks.
Barcelona, 5

Dextrine—
Dunkirk, 50 bgs.

Dyestuffs—
Cutch
Singapore, 507 bxs.
Dyewood Extract
New York, 60 bxs.
Gambier
Singapore, 660 bgs.
Sumac
Palermo, 698 bgs.
Tannin Extract
Bordeaux, 549 cks.
Rotterdam, 4

Ether—
Hamburg, 1 cs.

Fish Oil—
Loanda, 10 cks.

Glue—
St. Nazaire, 8 pks.
Brisbane, 29 brls.

Lactic Acid—
Rotterdam, 28 cks.

Lead Nitrate—
Rouen, 11 cks.

Litharge—
Rotterdam, 28 cks.

Lithopone—
Rotterdam, 120 cks.

Magnesite—
Yokohama, 528 bgs.
Dunkirk, 290
Rotterdam, 417

Mineral White—
Bordeaux, 503 bgs.
Trieste, 100

Olive Oil—
Bordeaux, 30 cks.
Genoa, 50 pks.

Oxalic Acid—
Hamburg, 5 cks.

Potash—
Hamburg, 41 cks.

Potassium Chlorate—
Gothenburg, 45 brls.

Rubber—
Dakar, 20 cks. French Co. de Kong
,, 18
Assinee, 7 pks. Paget, Digby & Co.
,, 10 16 French Co. de Kong
,, 30 French Co. Dlao
Hamburg, 29 bgs.
Manaos, 1,229 cs.
Para, 556 pks.
Havre, 57
Sekondi, 12 Russell & Co.
,, 5 J. P. Werner
,, 8 Fischer & Co.
,, 8 African Assn.
Burutu, 33 pks. Niger Co.
Lagos, 3 Paterson, Zochonis
,, 4 Miller Bros. & Co.
Accra, 2 J. P. Werner
C. Coast, 1 Russell & Co.
,, 1 Fischer & Co.
Sekondi, 7 cks. F. & A. Swanzy
,, 17
Pernambuco, 2 bgs.
Maceio, 9 cs.
Warri, 17 Holt & Co.
Benin River, 62 Miller & Co.
Assinee, 11 Dunlop Tdng. Co.
,, 3 Paget, Digby & Co.
Bassam, 3 Cie F. de Kong
,, 1 Hamilton & Co.
Lahou, 5 R. & W. King
Bordeaux, 1 bg.

Salt (Waste)—
Hamburg, 100 t. / 508 bgs.

Saltpetre—
Hamburg, 10 cks.
Rotterdam, 21

Silico-Manganese—
Bordeaux, 51 cks.

Soap—
Shanghai, 4 bxs.

Sodium Chlorate—
Havre, 80 brls.

Starch—
Antwerp, 560 cs.
Dunkirk, 60 bgs. / 240 cs.
Fiume, 260 300 bls.
Philadelphia, 25 brls.

Stearine—
Rouen, 100 bgs.

Tallow—
New York, 250 trcs.
Sydney, 104 cks.
Zarate, 74 pks.
Bahia Blanca, 560
B. Ayres, 283 hf.-pps.
N. Orleans, 83 brls.
Philadelphia, 100 180 trcs.

Tar (Wood)—
Gothenburg, 50 cks.

Tin Ore—
Havre, 1,001 bgs.
Burutu, 98

Tin Oxide—
Rouen, 10 cks.

Ultramarine—
Rotterdam, 26 pks.

Wax—
Conakry, 19 pks. Paterson, Zochonis
Philadelphia, 100 brls.

White Lead—
Trieste, 20 cs.
Rotterdam, 61 cks.

Wolfram—
H. Kong, 43 bgs.

Zinc Oxide—
New York, 500 brls.
Antwerp, 5

Zinc White—
Rotterdam, 90 cks.

MANCHESTER.

Week ending November 30

Antimony Salts—
Rotterdam, 4 cks.
Rouen, 3 dms.

Barium Chloride—
Rotterdam, 15 cks.

Barium Sulphate—
Antwerp, 50 bgs.
Hamburg, 3 cks.

Barytes—
Antwerp, 24 cks.
Rotterdam, 350 bgs. / 400 brls.

Calcium Carbide—
Gothenburg, 20 dms.
Savannah, 325

Castor Oil—
Marseilles, 5 brls. / 10 cs.

Chemicals (*otherwise undescribed*)
Ghent, 50 bgs.
Hamburg, 10 cks.
Rotterdam, 790 brls. / 2 cks. 26 pks. 7 dms.

Coal Products—
Aniline
Antwerp, 6 brls.
Aniline Salts
Rotterdam, 19 cks.
Alizarine
Rotterdam, 19 cks.
Aniline Oil
Rotterdam, 4 dms.

Colours—
Antwerp, 4 cks. 5 cs.
Hamburg, 6
Rotterdam, 421 pks.

Colours (Earth)—
Rotterdam, 26 cks. / 18 cs.

Dextrine—
Amsterdam, 50 bgs.

Dried Blood—
Ghent, 15 cs.

Dyestuffs (*otherwise undescribed*)
Gothenburg, 5 cks.

Dyestuffs—
Tannin
Hamburg, 5 cks.

Farina—
Rotterdam, 1,610 bgs.
Ghent, 100
Stettin, 4,640

Glucose—
Stettin, 10 cks. / 400 bgs.

Glue—
Antwerp, 193 brls.

Lactic Acid—
Rotterdam, 6 cks.

Lead Acetate—
Rotterdam, 34 cks.
Stettin, 15

Litharge—
Rotterdam, 79 cks.

Lithopone—
Rotterdam, 20 cks.

Manganese Ore—
Rio de Jan., 3,900 t.

Paraffin Scale—
Ghent, 816 brls.

Phosphate—
Antwerp, 17 cks.

Potassium Prussiate—
Antwerp, 43 cks.
Rouen, 3
Hamburg, 3

Olive Oil—
Marseilles, 8 brls.

Oxalic Acid—
Hamburg, 26 cks.

Rosin—
Savannah, 1,800 brls.

Salt (Waste)—
Hamburg, 150 t.

Silica—
Antwerp, 100 sks.

Soap—
Marseilles, 45 cs.

Soda Crystals—
Antwerp, 20 cks.

Sodium Chlorate—
Gothenburg, 8 cks.

Sodium Nitrite—
Forsgund, 8 cks.

Sodium Phosphate—
Antwerp, 13 brls.

Starch—
Antwerp, 944 cs.
Rotterdam, 62
Hamburg, 50 / 20 bgs.
Marseilles, 50
Philadelphia, 500 sks.

Stearine—
Rouen, 20 bgs.

Tallow—
Boston, 62 trcs.

Tar (Wood)—
Gothenburg, 50 cks.

Turpentine—
Rotterdam, 2 bskts.

Ultramarine—
Rotterdam, 4 cks.

Wax (Mineral)—
Hamburg, 10 bgs.

Zinc Bisulphate—
Rotterdam, 2 brls.

Zinc Dust—
Stettin, 44 cks.

Zinc White—
Rotterdam, 15 cks.

HULL.

Week ending November 30.

Asbestos—
Riga, 19 pks.

Barytes—
Hamburg, 40 cks.
Rotterdam, 112 200 bgs. Hull & N. S.S. Co.
Antwerp, 58 300 Wilsons & N.E. R. S. Co.
Amsterdam, 6 Hull & N. S.S. Co.
Antwerp, 51 157
Bremen, 150 Veltmann & Co.

Calcium Carbide—
Drontheim, 362 brls. Wilson, Sons & Co.

Chemicals (*otherwise undescribed*)
Rotterdam, 13 brls. / 12 pks. / 24 cks. Hull & N.S. S. Co
Marseilles, 3

Coal Products—
Alizarine
Rotterdam, 41 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 806 pks. Hull & N. S.S. Co.
Tar
Stockholm, 100 brls.

Colours—
Antwerp, 4 cks. Wilsons & N.E. R. S. Co.

Colours (Earth)—
Rotterdam, 200 bgs. Hull & N. S.S. Co.
Bremen, 8 pks. Veltmann & Co.

Cream of Tartar—
Rotterdam, 6 cks. Hull & N. S.S. Co.

Farina—
Stettin, 375 bgs. Wilson, Sons & Co.
Harlingen, 55 Hull & N. S.S.
50 pks. Co.

Glue—
Hamburg, 6 bgs. Wilsons & N.E. R. S. Co.
Rouen, 14 pks. 7 cs. ,,
Antwerp, 10 cks. ,,
,, 20 bls. ,,
Rotterdam, 5 bgs. Hull & N. S.S. Co.

Glue Stock—
Rouen, 4 bls.

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Linseed Oil—
Rotterdam, 114 brls. Hull & N. S.S. Co.
Antwerp, 60
Amsterdam, 151 pks. ,,

Lithopone—
Hamburg, 17 cks. Wilsons
27 brls. & N.E. R. S. Co

Olive Oil—
Leghorn, 23 pks. Wilsons
2 pps. & N.E R. S. Co.

Plumbago—
Genoa, 200 bgs.

Potash—
Antwerp, 25 dms. Wilsons & N.E. R. S. Co.

Potassium Nitrate—
Genoa, 5 brls. Wilson, Sons & Co.

Red Lead—
Rotterdam, 4 cks.
,, 20 Hull & N. S.S. Co.

Rosin—
Bordeaux, 6 cks. Moran & Co.
,, 25 Watts & Son

Rubber—
Riga, 30 pks.2 cs.
Antwerp, 20 cks.

Saltpetre—
Hamburg, 16 brls. Wilsons & N.E. R. S. Co.
,, 10 kgs.

Soap—
Bari, 52 cs. Wilson, Sons & Co.

Soda—
Ghent, 50 bgs.

Sodium Sulphate—
Rotterdam, 17 dms. Hull & N. S.S. Co.

Starch—
Antwerp, 347 cs.
Bremen, 1,644 Veltmann & Co.

Talc—
Genoa, 100 bgs.

Tartar—
Naples, 4 cks. Wilson, Sons & Co.

Tartaric Acid—
Bari, 13 brls. Wilson, Sons & Co.

Tin Oxide—
Rotterdam, 12 cks. Hull & N.
9 pks. S.S. Co.

Turpentine—
Riga, 18 brls.

Ultramarine—
Bremen, 20 cks.

White Lead—
Amsterdam, 12 cks. Hull & N. S.S. Co.

Zinc Oxide—
Rotterdam, 5 cks. Hull & N. S.S. Co.

GLASGOW.

Week ending December 5.

Albumen—
Hamburg, 2 cks.

Ammonia—
Hamburg, 20 cylds.

Asbestos—
Rotterdam, 3 cs.

Barium Sulphate—
Antwerp, 1,551 bgs. 225 cks.

Barytes—
Rotterdam, 290 bgs.
Hamburg, 150

Bleaching Powder—
Hamburg, 54 cks.

Calcium Carbide—
Gothenburg, 4,000 dms.
Drontheim, 100
Bergen, 310

Castor Oil—
Antwerp, 212 brls.

Chalk—
Baltimore, 30 cs.
Rotterdam, 2 cks.

Chemicals (*otherwise undescribed*)
Hamburg, 4 cks.
Rouen, 20
Rotterdam, 16 6 brls. 17 cs.

Coal Products—
Alizarine
Rotterdam, 65 cks. 37 pks.
Aniline
Rotterdam, 27 cs.
Naphthol
Rotterdam, 16 cks.
Naphthylamine
Rotterdam, 3 cks.
Paranitraniline
Amsterdam, 10 cks.

Colours—
Hamburg, 11 cks.
Rotterdam, 206 pks.

Colours (Earth)—
Antwerp, 7 cks.

Cottonseed Oil—
Baltimore, 75 brls.

Dyestuffs—
Indigo (Artificial)
Rotterdam, 10 cks.
Indigo Paste
Rotterdam, 5 cks.
Tannin
Hamburg, 7 cks.

Farina—
Delfzyl, 1,410 pks.

Glue—
Antwerp, 2 cks. 20 bls.
Hamburg, 36 bgs.
Rotterdam, 200
New York, 304 brls.
Rouen, 15 34 44 pks.

Linseed Oil—
Antwerp, 30 brls.
Rotterdam, 170

Magnesite—
Rotterdam, 100 bgs.
Amsterdam, 1,079

Magnesium Chloride—
Hamburg, 121 cks.

Phosphate—
Antwerp, 100 bgs.

Potash Lye—
Hamburg, 35 dms.

Potassium Muriate—
Hamburg, 50 bgs.

Potassium Prussiate—
Hamburg, 3 cks.

Red Lead—
Rotterdam, 40 cks.

Rosin—
Hamburg, 82 bls.

Salt (Waste)—
Hamburg, 270 t.

Saltpetre—
Hamburg, 21 pks.

Soap—
Baltimore, 50 brls.
Amsterdam, 3
New York, 170

Soap Powder—
Rotterdam, 6 cs.

Soda Crystals—
Antwerp, 40 bgs.

Sodium Prussiate—
Antwerp, 6 cks.

Starch—
Amsterdam, 25 bgs.
Antwerp, 5 brls. 219 cs.
Rotterdam, 60

Tartar—
Bordeaux, 13 cks.

Tartaric Acid—
Rotterdam, 4 cks.

Ultramarine—
Rotterdam, 2 cks.2 cs.

Wax—
Hamburg, 50 cs.

White Lead—
Rotterdam, 19 cks.

Zinc Oxide—
Hamburg, 61 cks.
Rotterdam, 35
Antwerp, 8 brls.
Hamburg, 95

Zinc White—
Rotterdam, 21 cks.

TYNE.

Week ending November 30.

Acetic Acid—
Antwerp, 26 cks.

Antimony—
Tampico, 1,832 bars.

Barytes—
Rotterdam, 76 cks.

Calcium Carbide—
Trondhjem, 357 dms.

Colours (Earth)—
Rotterdam, 10 cks.

Copper Ashes—
Antwerp, 801 bgs.

Copper (Precipitate)—
Huelva, 187 t. Tharsis S. & C. Co.

Farina—
Amsterdam, 100 bgs.

Fish Oil—
Copenhagen, 10 cks.

Glue—
Antwerp, 40 bls.

Litharge—
Rotterdam, 12 cks.

Pyrites—
Huelva, 1,958 t. Tharsis S. & C. Co.

Salt (Waste)—
Hamburg, 490 t. Clephans & Wiencke

Soda Crystals—
Ghent, 240 bgs.

Starch—
Antwerp, 60 cs.
Rotterdam, 106

Stearine—
Rotterdam, 10 bgs.

Tartaric Acid—
Rotterdam, 20 cks.

White Lead—
Rotterdam, 26 cks.

GOOLE.

Week ending November 30.

Acid (*otherwise undescribed*)**—**
Hamburg, 10 cks. 100 crbys.

Caoutchouc—
Boulogne, 15 cks. 1 bl.

Chemicals (*otherwise undescribed*)
Antwerp, 3 brls. 135 bgs.
Boulogne, 2 pks. 18 dms.
Hamburg, 40 cks. 1 cs.
Rotterdam, 42

Dyestuffs (*otherwise undescribed*)**—**
Antwerp, 309 bgs. 41 brls. 3 cs.
Boulogne, 65 cks. 2 cs.
Hamburg 193 200 bgs. 262 cs.
Rotterdam, 563 43

Farina—
Hamburg, 100 bgs.
Boulogne, 1 cs.
Rotterdam, 20 bgs.
Delfziel, 2,414

Glue—
Rotterdam, 6 bls.

Magnesia—
Hamburg, 45 cks.

Phosphate of Lime—
Dunkirk, 309 t.

Potash—
Boulogne, 40 dms.
Hamburg, 26

Salt (Waste)—
Hamburg, 370 t.

Soda—
Hamburg, 100 bgs.

Starch—
Antwerp, 22 cs.
Rotterdam, 100 10 bgs.

Stearine—
Boulo, 3 cks.

GRIMSBY.

Week ending November 27.

Acetic Acid—
Fredrikstad, 76 cks.

Alkali—
Antwerp, 20 cks.

Barytes—
Rotterdam, 100 bgs.

Calcium Carbide—
Christiania, 40 cs.
Frederikstad, 100 dms.

Caoutchouc—
Hamburg, 90 cs.
Rotterdam, 2
Antwerp, 3

Chemicals (*otherwise undescribed*)
Hamburg, 2 cs.
Antwerp, 8 cks.2

Coal Products—
Beta Naphtha
Antwerp, 5 cks.

Colours—
Hamburg, 10 cks. 22 pks. 147 bgs.
Rotterdam, 45

Ferro Chrome—
Dieppe, 2 cks.

Glue—
Antwerp, 20 bgs.

Kainit—
Hamburg, 132 t.

Rosin—
Hamburg, 2 cs.

Soap Stock—
Antwerp, 20 cs.

Starch—
Rotterdam, 30 cs.

Zinc Ashes—
Antwerp, 17 cks.

EXPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 4.

Ammonia—
Calcutta, 6 cks. £16

Ammonia—
Delagoa Bay, 5 cs. £13
Durban, 13 24
Sydney, 5 16
Ghent, 4 5
Penang, 3 4

Ammonia—
Algoa Bay, 5 cs. £15
Shanghai, 5 7

Ammonia (Anhydrous)—
Singapore, 4 cylds. 9 cs. £81

Ammonium Carbonate—
Auckland, 12 c. £16
Antwerp, 7 cks. 13
Penang, 10 cs. 15
Yokohama, 10 64

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Ammonium Muriate—

Sydney,		12 c.	£59
Singapore,		10	13

Ammonium Sulphate—

Kobe,	3,330 bgs.		
	115 t.	12 c.	£4,219
Trinidad,	10		123
Channel Is.,	20		250
Yokohama,	103	18	1,235
Valencia,	60		714
Colombo,	24		288

Antimony (Regulus)—

New York,	20 t.	4 c.	
Rotterdam,	1		
Riga,	10		

Asbestos—

Bombay,			£17
Calcutta,			21
Shanghai,			104

Barium Binoxide—

Paris,	15 t.	6 c.	£540
N. Orleans,	2	10	85

Bone Ash—

Madras,		6 c.	£7

Borax—

Progresso,		10 kgs.	£9
Brisbane,	4 t.	10 c.	203
Sekondi,		8 cs.	14

Caustic Potash—

Havre,	1 ck.		£6

Caustic Soda—

Napier,		10 c.	£13

Chalk—

Boston,	600 t.		

Chemicals (*otherwise undescribed*)

Beira,		2 cs.	£26
Hong Kong,		6	26
Bremen,		1 bx. 3	35
Christiania,	5 cks.		8
Bombay,		10	84
C. Town,		2 btls.	16
E. London,	6 pks.	1	20
Shanghai,		10	90
Madras,		7	58
Melbourne,		2	6
Tientsin,		5	29
Algoa Bay,	3 dms.	4	13
Yokohama,		3	18
Penang,		1	10
Durban,	21 pks.		38
P. Elizabeth,		1	8
H. Kong,		1	13
Hamburg,		3	253
Copenhagen,		2	48
Cadiz,		1 dm.	20

Citric Acid—

Rotterdam,		11 c.	£77
Hamburg,		11	78

Coal Products (*otherwise undes.*)—

Sydney,	100 dms.		
	8 cks.		£30

Coal Products—

Alizarine

Tuticorin,	23 cks.		£291
Rouen,	4		131

Aniline Dye

Boulogne,	2 pks.		£12
Calcutta,	2		18

Benzol

Mannheim,	144 cks.		£300
Hamburg,	100		139

Carbolic Acid

Algoa Bay,	72 dms.		
	2 cs.		£41
Bari,	1 ck.		1
Toronto,	6	6	40
Hamilton,	12	8	49
Melbourne,		50 dms.	38
Bundaberg,		20	8

Creosote

N. Orleans,		250 dms.	£625

Creosote Oil

Chinde,		1 brl.	£8

Naphtha

Zanzibar,		9 dms.	£15

Naphthaline

Melbourne,		20 cs.	£64
Shanghai,		50	80
Sydney,		20	24

Pitch

Hamburg,		50 brls.	£97
Alexandria,	330		105
Antwerp,	718 t.		880
Gravelines,	170		208

Coal Products

Pitch

Rouen,	113		278
Dunkirk,	237		291
Sydney,		35	27
Hamburg,		57	109
Delagoa Bay,		390 pks.	48
Beira,		10 dms.	6
St. John, N.B.,		2 brls.	4

Tar

Chinde,	3 cks.		£8
Copenhagen,	4		6
Trinidad,	14 pks.		49

Tar Oil

Got'burg,	225 cks.		
	300 brls.		£460

Copper Sulphate—

Smyrna,	1 t.		£23
Riga,	5		117
Canary Is.,		6 c.	8
Durban,		5	7
Algoa Bay,	343 pks.		56

Cottonseed Oil—

Antwerp,	8 t.	9 c.	
Bordeaux,	30	19	
Genoa,	17	6	
Hamburg,	8	10	
Rotterdam,	14	3	
Dunkirk,	8	5	
Marseilles,	162	10	
Oran,	3	6	
Salonica,	8	9	

Cream of Tartar—

Brisbane,		5 c.	£23

Cyanide (*otherwise undescribed*)—

Sydney,	2 t.	8 c.	£165
Tampico,	1	3	1,350
Townsville,		8 cs.	73

Disinfectant—

Algoa Bay,		1 cs.	£5
Madras,	20 bgs.		8
Naples,	2 cks.		50
Bordeaux,	20		26
B. Ayres,	9		57
Copenhagen,	1		25
P. Swet'ham,	1	3	26
Mombasa,		40 dms.	5
Singapore,		50	11
Sydney,	25	50	89
Durban,		100	72
Calcutta,		8	6
Ghent,		1	5
Bombay,	41 pks.		19
Shanghai,	1 ck.		6
H. Kong,		2	6
Sandakan,		10 1	11

Ethyl Chloride—

C. Town,		1 cs.	£7

Glue—

Yokohama,	2 t.	10 c.	

Glycerine—

Shanghai,		5 c.	£15
C. Town,		2	9
Durban,		13	21
Penang,		2	7
Lisbon,	2 t.	2	105
Calcutta,		9	8 cs. 81

Guano—

Yokohama,	100 t.		£755

Hydrochloric Acid—

Trinidad,	2 t.	16 c.	£9
Colombo,		16	11

Linseed Oil—

Antigua,		6 c.	
Auckland,		17	
Beira,		6	
B Ayres,	5 t.		
C Town,		8	
Cebu,		10	
Christchurch,	2	5	
Colombo,	1	12	
Cuba,	1	12	
Demerara,		11	
Mombasa,		15	
Nagasaki,	3		
Piræus,	1	14	
P. Swet'ham,	2	10	
Pt. Elizabeth,	40	10	
Shanghai,	21	16	
Trinidad,	1	10	
Wellington,	8	16	
Penang,	3	3	
Pernambuco,	4	14	
Perth,	3	18	
Santos,	13	3	
Singapore,	4	5	
Sydney,	5		
Townsville,		12	

Linseed Oil—

Alexandria,	6 t.	7 c.	
Azores,		12	
Bagdad,		13	
Bermuda,		10	
Bombay,	4	12	
Brisbane,	2	18	
Calcutta,	8	8	
Canaries,	1	8	
Delagoa Bay,	3	6	
Fremantle,	1	8	
Hamburg,	5	2	
Kilindini,	4	7	
Launceston,		10	
Lyttelton,	1		
Madeira,		5	
Madras,	1	12	
Malta,	3	17	
Manilla,	2	5	
Marmagoa,		4	
Mauritius,		4	
Melbourne,		12	
Nelson,		10	
Newcastle,	18	15	£122

Manure—

Auckland,	50 t.		£165
Guernsey,	20		120
Gempu B.,	575	3 c.	1,125
Landerneau,	319		2,233
Antwerp,	11	13	56
Demerara,	25		225
Delhi,	228		1,575
Ghent,	5		20

Nitric Acid—

E. London,		4 c.	£5
P. Elizabeth,		3 cs.	6

Phosphorus—

Brisbane,		12 cs.	£79

Plumbago—

Stockholm,	5 t.	18 c.	

Potash—

Toronto,		2 c.	£18
Algoa Bay,		3	9
Melbourne,	5 cs.		59
Madras,		3	24

Potassium Chlorate—

Leghorn,		1 c.	£18

Potassium Cyanide—

Townsville,	8 t.		£728
Penang,		1 c.	2 cs. 25

Potassium Sulphate—

Guernsey,	1 t.		£10
Demerara,	13	6 c.	10

Quinine—

Alexandria,	2,596 ozs.		
Bombay,	1,000		
Salonica,	1,042		

Rosin Oil—

Hamburg,	9 t.	7 c.	

Salammoniac—

Melbourne,		5 c.	£10

Salt—

Adelaide,	2 t.		

Saltpetre—

Christchurch,		10 kgs.	£13
Ghent,		16 c.	20
Santos,	4 t.		106
Amsterdam,	1	6	33

Sheep Dip—

Melbourne,	5 cks.		£7
Wellington,	1 t.	17 c.	250
Brisbane,		2	5
Launceston,		9	17

Silver Nitrate—

Sydney,	1 ck.		£41

Soap—

Antigua,		1	
Cadiz,		2	
Cebu,		10	
Colombo,	2	11	
Crete,		1	
Durban,		6	
Invercargill,		1	
Madras,	1	6	
P Said,		4	
P Sudan,	1	3	
St Johns, N'fld.,		6	
St. John, N.B.,		6	
St. Petersburg,		5	
St. Thomas,		1	
Smyrna,		1	
Suez,		1	
Sydney,	1	10	
Tokio,		5	
Yokohama,		19	
Adelaide,		4 c.	
Aden,		3	
Alexandria,		4	
Antwerp,		6	
Bangkok,		7	
Beira,		6	

Soap—

Bermuda,		2 c.	
Bombay,	4 t.	10	
Bremen,		8	
Calcutta,		7	
C. Town,		3	
Cochin,		11	
Flushing,		8	
Gibraltar,		3	
Hamburg,		11	
Hong Kong,		9	
Marseilles,		1	
Mauritius,		2	
Mazagan,		5	
Mersine,		2	
Mombasa,		5	
Naples,		6	
Penang,		15	
P. Elizabeth,		2	
P. Swettenham,		15	
Rotterdam,	2	16	
Shanghai,	1	2	
Singapore,		3	
Tanga,	3	5	
Zanzibar,	11	9	

Soda—

Melbourne,		10 c.	£27

Soda Compounds—

Melbourne,		8 c.	£24

Sodium Bicarbonate—

Mombasa,	2 t.	3 c.	£17
Durban,		10	5
Montreal,		10	13

Sodium Hyposulphite—

Valparaiso,		1 cs.	£6

Sodium Sulphate (Glauber's Salts)—

Demerara,	3 cks.		£7

Sodium Sulphide—

Napier,	10 t	4 c.	£74

Sodium Tartrate—

St. John, N.B.,	1 t.	8 c.	£74

Starch—

Beira,		10 c.	
Melbourne,	3 t.	14	
P. Elizabeth,	1	2	
Calcutta,		6	
Durban,	1	13	
Reval,		2	
Singapore,	4	4	
Tunis,	1		
C. Town,	1		
Delagoa Bay,		2	
P. Sudan,		3	

Sulphur—

Melbourne,	4 cks.		£31

Sulphuric Acid—

Taiping,	1 t.	10 c.	£15
Mauritius,	2	1	10
Beira,		6	5
Chinde,		11	8
Sekondi,	1	1	10
Calcutta,		14	30
Singapore,		11	7
Demerara,		10 dms.	6

Tallow—

Halifax,	2 t.		
Helsingfors,	15	14 c.	
Riga,	9	19	
Amsterdam,	3	2	
Copenhagen,	4	19	
Danzig,	5	14	
Drontheim,	8	17	
Hamburg,	26	7	
Rotterdam,	14	12	
Riga,	30	2	

Tartaric Acid—

Christchurch,		1 c.	£5
Havana,	1 t.		98
Sydney,		4	21
Penang,		2	14

Turpentine—

Bombay,	17 t.		

Wax—

Flushing,		3 c.	

White Lead—

Bombay,			£277
Brisbane,			373
Madras,			8
Melbourne,			242
Perth,			184
P. Elizabeth,			244
Calcutta,			161
E. London,			84
Hong Kong,			28
Calcutta,			35
Sydney,			735
Wellington,			40

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LIVERPOOL.

Period ending December 4.

Acetic Acid—
Shanghai, 1 brl. £8

Alcohol (Methylated Spirits)—
Iquique, 10 cs.

Alum—
Piræus, 7 t. 16 c. £42
Salonica, 11 18 63
Smyrna, 15 5
Sydney, 3 16 22
Oporto, 19 5
Fremantle, 1 5
Demerara, 6 20

Alum (Waste)—
Calcutta, 65 t. 9 c.

Alumino Ferric—
Havana, 58 cs.

Ammonia—
Lagos, 5 cs. £2
Cadiz, 4 c. 18

Ammonia (Anhydrous)—
Pto. Mexico, 1 cyld. £8

Ammonium Carbonate—
Vera Cruz, 2 c. £7
Barcelona, 2 t. 55
New York, 8 8 294
M. Video, 17 20
Venice, 1 2 40
Genoa, 2 4 80
Havana, 17 30
Santander, 1 5 45
St. Johns, N'fld., 1 35
Rosario, 1 15 56
Rangoon, 2 4

Ammonium Muriate—
Antwerp, 1 t. £21
Baltimore, 16 6 c. 443
Alexandria, 1 32
Alexandretta, 10 16
Genoa, 6 6 142
Gothenburg, 14 15
Stockholm, 11 12 254
Barcelona, 2 17 66

Ammonium Sulphate—
Baltimore, 200 sks.
374 t. 6 c. £4,903
Yokohama, 51 8 612
New York, 50 600
Demerara, 200 2,400
Gd. Canary, 10 120
Sta. Cruz, 15 180
Carthagena, 10 117
Adelaide, 2 15
Kobe, 200 10 2,474
New York, 10 12 130
Las Palmas, 7 84
Teneriffe, 45 16 550
Newport N., 20 3 247
Lisbon, 23 6 288
Valencia, 227 13 2,663
Alicante, 45 518

Antimony Salts—
Bahia, 1 kg. £4

Arsenic—
Rangoon, 2 cs. £5
Hiogo, 2 t. 10 c. 74

Barium Sulphocyanide—
Rio de Jan., 10 c. £20

Basic Slag—
Gijon, 10 t. £15
Villa Garcia, 50 75
Barbadoes, 10 15

Bleaching Powder—
Bombay, 70 cs. 16 dms.
Boston, 643 cks.
Callao, 31 fkns.
N. Orleans, 118 brls.
Philadelphia, 36
Portland, 615
Rio de Jan., 50 cs. 7 30
Aleppo, 7
Baltimore, 258 cks.
Calcutta, 585
Ghent, 29
Hamburg, 29
New York, 9 10
Varna, 7

Bone Meal—
Guernsey, 2 t. £11

Boracic Acid—
Ghent, 5 c. £7

Borax—
Sekondi, 10 c. £19
Elmina, 1 ck. 1
Valparaiso, 2 1 14
Ching Wang Tao, 3 4
Cienfuegos, 17 14
Bombay, 7 10 121
Tampico, 3 6 131
St. Thomas, 3 6

Borax—
Santa Cruz, 1 kg. £1

Calcium Carbide—
Port Louis, 3 c. £4

Calcium Chloride—
Genoa, 5 t. £15
Rufisque, 2 c. 10
Bilbao, 2 4 6
Calcutta, 2 4
Bombay, 10 20

Calcium Sulphydrate—
Antwerp, 20 t. 10 c. £85

Carbonic Acid Gas—
Burutu, 3 cs. £8

Castor Oil—
Coton. 10 pks.

Caustic Potash—
Manaos, 2 c. £3
Chicago, 17 26
Algoa Bay, 5 8

Caustic Soda—
Alexandretta, 105 dms.
Amsterdam, 2 brls. 55
Antwerp, 95
Barcelona, 600
Bari, 186
Boston, 70 cks. 60
B. Ayres, 25
Calcutta, 108
Catania, 52
Galveston, 605
Kobe, 156
Leghorn, 25
Matanzas, 70
Messina, 60
Naples, 55
Piræus, 50
Pto. Colombia, 20
Rangoon, 61
Rotterdam, 121
Rouen, 10
Santander, 10 brls. 68
Shanghai, 25
Vera Cruz, 9
Zanzibar, 7
Alexandria, 20
Auckland, 100
Beyrout, 81
Bombay, 60
Calamanta, 20
Fremantle, 11
Constantinople, 416
Genoa, 69
Gothenburg, 80
Havana, 246
Hiogo, 10
Karachi, 67
La Guayra, 15
Limon, 320
Lisbon, 15
Malaga, 50
Manilla, 60 cs.
Melbourne, 36
M. Video, 4
Pernambuco, 40
Pt. Elizabeth, 6 155
Rio de Jan., 82
Samarang, 45
Seville, 10
Sourabaya, 30
Valencia, 105
Venice, 54
Wellington, 424
Yokohama,

Chemicals (*otherwise undescribed*)
Venice, 10 cks. £51
Ancona, 10 cs. 13 pks. 36
Bangkok, 50 dms. 8
Havana, 6 16
Valparaiso, 2 cs. 2
Kobe, 7 cks. 78
Genoa, 12 20
Odessa, 30 kgs. 45
Smyrna, 5 brls. 19
Patras, 2 7
Gijon, 19 20 152
Melbourne, 5 21
Corinto, 50 cs. 400
Madras, 21 brls. 114
Calcutta, 2 20 126
Santander, 12 22
Baltimore, 118 dms. 632
Varna, 6 brls. 32
Prevesa, 1 3
Calcutta, 78 661
Rotterdam, 67 bgs. 65

China Clay—
Baltimore, 1,137 cks. 145 t.
Macelo, 56
New York, 75
Pernambuco, 40 bgs.
Phila'phia, 361
Rio de Jan., 150
Vera Cruz, 52
Baltimore, 52 t.
Portland, 1,079 cs.

Chromium Acetate—
Rio de Jan., 1 t. 17 c. £70

Coal Products—
Alizarine
Rio de Jan., 4 cks.
Aniline Colours
Boston, 25 cks.
Melbourne, 33 pks.
Sydney, 11
Shanghai, 50 cs.
Carbolic Acid
Rotterdam, 12 t. 3 c. £622
Pt. Elizabeth, 12 dms. 16
Saltpond, 2 1
Valparaiso, 2 cs. 15
Carbolic Acid (Crystals)
Lagos, 2 cs. £6
Sydney, 10 c. 45
Auckland, 5 13
Carbolic Acid (Solid)
Hamburg, 15 t. 1 c. £704
New York, 1 7 89
Bordeaux, 5 12
Pitch
Bilbao, 70 brls.
New York, 106
Tar
Demerara, 30 brls.
Iquitos, 8

Colours—
Bombay, 6 cs. 88 kgs.
Madras, 13
Melbourne, 31 cks. 2
M. Video, 15 pks.

Copperas—
Candia, 2 t. 15 c. £6
Las Palmas, 5 1
Teneriffe, 3 1 9

Copper Sulphate—
Antwerp, 25 t. £530
Bourgas, 5 110
Kobe, 5 113
Karachi, 1 22
Constantin'ple, 1 22
Oporto, 12 9 253
Tampico, 15 341
B. Ayres, 54 3 1,251
Salonica, 15 17
Argostoli, 4 2 90
Varna, 10 11
Palermo, 6 19 148
Talcahuano, 1 19 48
Funchal, 8 168
Rotterdam, 10 2 201
Rangoon, 10 12
Singapore, 5 108
Calcutta, 3 61
Bombay, 2 10 69
Fremantle, 5 139
Rangoon, 1 5 29
Marseilles, 22 10 273

Cottonseed Oil—
Algiers, 25 brls.
Dakar, 56
Rufisque, 67
Tangiers, 25

Disinfectants—
B. Ayres, 35 t. 2 c. £687
Melbourne, 10 dms. 7
Rangoon, 100 5 kgs. 26
Tuticorin, 2 4
Calcutta, 1 cs. 24
Saltpond, 2 1
Sydney, 8 brls. 33
Pernambuco, 5 8
Fremantle, 110 cks. 4 98
Shanghai, 15 kgs. 36
Durban, 60 dms. 7
Forcados, 1 cs. 4
Bombay, 66 33
Ching Wangtao, 1 2
Lagos, 1 5
E. London, 1,521 327
Warri, 1 2
Perth, Aus., 63 pks. 30
Karachi, 400 dms. 58
Guernsey, 32 pks. 10
Sapele, 2 4

Dried Blood—
Teneriffe, 10 t. 3 c. £90
Colombo, 48 509

Dyestuffs (*otherwise undescribed*) -
Rio de Jan., 26 cks.

Dyestuffs—
Dyewood Extract
Genoa, 30 cks.
Gothenburg, 8
Tannin Extract
Boston, 325 brls.
Stockholm, 8 cks.
Hamburg, 60

Farina—
Vera Cruz, 10 cks.
Tampico, 10 bgs.

Ferro Manganese—
Norrkoping, 42 t. 6 c.
New York, 50
Stettin, 300
Stockholm, 25

Glue—
New York, 220 bgs.

Glue Stock—
Kobe, 29 brls.
New York, 394 bgs.

Glycerine—
Hamilton, O., 1 t. 10 c. £68
Valencia, 6 15
Havre, 9 17 580
Hamburg, 4 19 138
Pt. Madryn, 1 4
Valparaiso, 11 45
Bombay, 1 15 88
Stanley, F.I., 2 cs. 1

Guano—
Hamburg, 6 t. £42

Gypsum—
Guernsey, 5 t. 3 c. £28

Hydrochloric Acid—
Lagos, 1 cs. £1

Iron Nitrite—
Rio de Jan., 6 c. £13

Iron Oxide—
Rouen, 25 cks.
St. John, 4
New York, 6

Lead Acetate—
Bombay, 5 c. £8
Auckland, 2 3

Linseed Oil—
Bahamas, 2 brls.
Bahia, 25
Bahia Blanca, 10 dms.
Bombay, 125
B. Ayres, 35
Chinde, 80
Constantinople, 4 20
Durban, 3 cks. 20
Genoa, 10
Karachi, 45
Las Palmas, 3
Maceio, 8
Madras, 240
Syra, 6
Valparaiso, 30
Wellington, 70
Antofagasta, 100
Barbadoes, 2 2
Costa Pica, 6
Lisbon, 4
Rosario, 75
Pt. Elizabeth, 6 40
Ching Wang Tao, 100
Alexandria, 90

Litharge—
Bombay, 1 t.
Philadelphia, 20 cks.

Magnesia—
Rosario, 1 t. 10 c. £30
B. Ayres, 9 18

Magnesium Carbonate—
Tampico, 5 c. £8
New York, 2 3
Havre, 1 t. 19 36

Magnesium Oxide—
New York, 5 cks.

Manure—
Bahia, 4 cks. £24
Bordeaux, 4 t. 8 c. 40
La Pallice, 20 11 110
Las Palmas, 10 5 bgs. 128
Orotava, 2 1
Guernsey, 26 8 c. 186
Teneriffe, 45 11
3 bgs. 276

Muriatic Acid—
Corinto, 2 cs. £1

Nitric Acid—
Lagos, 4 cs. £1

Ochre—
Gijon, 6 cks.
Halifax, 80

Paraffin Wax—
Barcelona, 20 cs.
New York, 39 bgs.

Phosphorus—
Kobe, 1 t. 15 c. £255
Vera Cruz, 10 45

Phosphorus (Amorphous)—
E. London, 5 c. £43

Plumbago—
Vera Cruz, 3 cks.
Valparaiso, 9

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Potash—
Manaos, 4 c. £2

Potassium Bicarbonate—
Melbourne, 4 c. £6
Rangoon, 1 2

Potassium Bichromate—
St. Johns, N.B., 7 c. £11
Bourgas, 2 t. 62
Barcelona, 10 310

Potassium Carbonate—
Manaos, 6 c. £8
Bahia, 1 kg. 2

Potassium Chlorate—
Kobe, 15 t. £2,250
Riga, 5 154
Kalmar, 1 19 c. 58
Rio de Jan., 19 40
Hamburg, 2 60

Potassium Cyanide—
Cape Gracias, 1 t. 7 c. £104
Savanilla, 19 66

Potassium Nitrate—
Lanzarote, 6 c. £8

Potassium Prussiate—
Havana, 1 c. £2
Vera Cruz, 1 t. 18 85

Potassium Stannate—
Bombay, 1 t. 4 c. £114

Red Lead—
Bahia, 20 kgs.
Oporto, 4 cks.
Chinde, 70
New York, 20

Salammoniac—
Calcutta, 3 t. £120
Karachi, 1 18 c. 78
Tuticorin, 1 kg. 1
Odessa, 8 330
Piræus, 10 20
Lagos, 2 5
Rio de Jan., 11 16

Salt—
Antwerp, 160 t.
Bahia Blanca, 1
B. Ayres, 116 19 c.
Buguma, 16 8
Calcutta, 305 2 525 cs.
Delagoa Bay, 50
Dixcove, 8 10
Durban, 120 2 3
Fremantle, 25
Ghent, 300
Hamburg, 17 17
Pt. Madryn, 100
Rangoon, 186
Rotterdam, 600
Rouen, 15
St. Johns, 178
Stockholm, 39
Savannah, 2,500
Trinidad, 12 10
Warri, 200
Anamaboe, 11
Baltimore, 365
Barbadoes, 25
Boston, 120
Cameroons, 49 11
Cape Town, 44 10 115
Durban, 250 bgs.
Conakry, 112
Gd. Bassam, 26 6
Guernsey, 343 cs.
Kobe, 63
New York, 50
Oporto, 60 6
St. Johns, 10
Sherbro, 11
Varna, 9 10
Philadelphia, 50
Gothenburg, 100

Saltcake—
Antwerp, 70 t. 13 c.
Leghorn, 1,080 bgs.
Lisbon, 200

Saltpetre—
Elmina, 1 ck. £2
Payta, 10 c. 13
Savanilla, 6 9
Para, 6 brls.

Sheep Dip—
B. Ayres, { 524 dms. / 8 t. 5 c. £1,764 / 1,050 cs.
Bahia Blanca, 24 4 442
Dunedin, 3 3 170
Natal, 4 200
B'ventura, 1 7
Pta. Arenas, 13 8 300 cs. 750
Durban, 17 21
Wellington, 4 75
Lyttelton, 5 13 90
Invercargill, 4 11 60

Sheep Dip—
Dunedin, 6 t. 9 c. £107
Pt. Madryn, 4 11 125
M. Video, { 3,655 dms. / 10 1 1,700

Soap—
Abonnema, 255 bxs.
Accra, 200
Alexandria, 159 cs. 20
Antofagasta, 4
Antwerp, 41
Arica, 2
Auckland, 11 pks. 4 2
Axim, 200
Bathurst, 130
Bermuda, 22
Bombay, 56
Boston, { 2 5 / 162 dms.
B. Ayres, 116 / 285
Calcutta, { 3,000 bdls. / 12 brls.
Constantinople, 9
Cape Coast, 300 bxs.
Cape Palmas, 20
Cape Town, 420 cs. 5
Colombo, 213 244
Copenhagen, 85
Delagoa Bay, 489 76
Demerara, 2,103 pks. 105
Dominica, 60
Dunedin, 15
Durban, { 1,325 / 412 / 55 bdls.
E. London, 192
Egwanga, 300 bxs.
Fiume, 8
Ghent, 60
Gibraltar, 100
Gothenburg, 110
Guernsey, 380
Havana, 24
Hong Kong, { 80 dms. 1,798 / 7
Karachi, 135 1,305
Kribi, 55
Lagos, 3,348
Larnaca, 20
Las Palmas, 1 498
Madras 397
Malta, 51
Manilla, 75
M. Video, 3 pks. 1 7 crts.
Mossel Bay, 57
Massowah, 12 2
New York, 49
Palma, 100 bxs.
Panama, 4
Penang, 50 3,158
Philadelphia, 35
Pt. Louis, 900
Pontianak 600
Pt. Elizabeth, 551
Piræus, 13
Port Said, 90 10
Rangoon, 60 dms. 450
Rotterdam, 1,200
St. Johns, 754
St. Thomas, 50 bdls. 25
St. Vincent, 100
Sta. Cruz de Teneriffe, 56
Santander, 2 pks.
Sekondi, 12 bdls. 530
Shanghai, 2,199
Sierra Leone, 10 171
Singapore, 2 5,289
Smyrna, 25
Stockholm, 300
Sydney, 15
Trinidad, 950
Valparaiso, 56
Vera Cruz, 4
Wellington, 13

Soap Extract—
Fremantle, 50 skl-cs.
Melbourne, 377 sks. 480 bxs.
Pt. Chalmers, 120 cs. 5 pks.

Soap Powder—
Antwerp, 100 bxs.
Constantinople, 30 cs.
Delagoa Bay, 12 skl-cs.

Soda—
Durban, 6 cs. 2 dms.

Soda Ash—
Amsterdam, 100 bgs.
Boston, 14 cks.
B. Ayres, 146 10 brls.
Canada, 500
Durban, 6
Genoa, 200
Halifax, 166
Hiogo, 25 667

Soda Ash—
Hong Kong, 10 cks.
Para, 6 kgs.
Palermo, 500 bgs.
Patras, 89 brls.
Piræus, 100 10
Portland, 486
Rio de Jan., 201 50
Salonica, 47
Shanghai, 231 462
Sydney, 594
Syra, 50
Vera Cruz, 85
Wellington, 140
Yokohama, 33
Alexandria, 30
Ancona, 100
Antwerp, 19
Barcelona, 54
Calcutta, 2 350 kgs.
Delagoa Bay, 400
Durban, 150
Fremantle, 16
Geffe, 30
Genoa, 900
New York, 119
Philadelphia, 75
Rotterdam, 100
St. Johns, 308
Salaverry, 10
Shanghai, 420 882
Venice, 400
Vladivost'k, 100

Soda Crystals—
Alexandria, 37 brls.
Bombay, 20 kgs.
B. Ayres, 695 kgs. 1,050 dms.
Candia, 14
Durban, 24
Gibraltar, 75
Malta, 100 130
Tangier, 20
Boston, 56
Calcutta, 50
Iquique, 50
Malta, 80
Singapore, 30
Rio de Jan., 30

Sodium Arseniate—
Smyrna, 2 kgs.

Sodium Bicarbonate—
Bahia, 3 pks.
Cadiz, 10 kgs.
Rangoon, 60
San Sebastian, 20
Torreon, 20
Alexandria, 50
Antwerp, 6 cks.
B. Ayres, 170
Calcutta, 20 442
Cape Town, 62
Gijon, 20
Oporto, 35
Patras, 100
Rangoon, 225
St. John, 250
Seville, 18 305
Smyrna, 15
Sydney, 97
Tampico, 25
Wellington, 162
Zanzibar, 25

Sodium Bichromate—
Bombay, 4 cks. 40 kgs.

Sodium Bisulphate—
Sydney, 18 brls.

Sodium Borate—
Rotterdam, 50 brls.

Sodium Chlorate—
Rio de Jan., 10 kgs.

Sodium Cyanide—
Durban, 3 t. 7 c. £280
St. Thomas, 2 171

Sodium Prussiate—
Barcelona, 15 cks.
New York, 20

Sodium Silicate—
Barcelona, 146 brls.
B. Ayres, 94
Gijon, 8
Kobe, 31
Salonica, 33
Adelaide, 250 bgs.
Cartagena, 33 cks.
Karachi, 6 dms.
Limon, 5
Malaga, 16
Santos, 75

Sodium Sulphate—
St. John, 150 bgs.

Sodium Sulphide—
Bombay, 1 t. 10 c. £14

Sodium Tannate—
Calcutta, 14 cks.

Sulphur—
Wellington, 18 c. £134
Geffe, 30 t. 137
New York, 1 cs. 2
Pernambuco, 10 107
Havana, 10 4

Sulphuric Acid—
Beira, 1 c. £1
Colombo, 1 t. 10 14
Lisbon, 7 4
Santos, 2 5
Lagos, 2 cs. 1
Kobe, 1 2
Teneriffe, 1 2
S. Leone, 1 3
Bahia, 1 2

Superphosphate—
Gijon, 12 sks. £6
Las Palmas, 4 t. 10 c. 15
Teneriffe, 5 16 16
Aquilas, 19 8 588
Santander, 2 8

Tallow—
Alexandria, 10 trcs.
Pt. Elizabeth, 300
Bombay, 59 brls.
Corunna, 29
Genoa, 24
Hong Kong, 2
Stettin, 110

Tannic Acid—
Genoa, 6 c. £25
Bahia, 1 kg. 6

Tartaric Acid—
Valparaiso, 1 ck. £11

Tin Crystals—
Trinidad, 1 t. £1
Bombay, 6 cs.

Turpentine—
Ching Wang Tao, 100 dms.
Dakar, 10
Opobo, 100
Rangoon, 50
Rotterdam, 400 trcs.

White Lead—
Wellington, 95 pks. 200 dms.
Valparaiso, 20 kgs.
B. Ayres, 77 cks.

Zinc Ashes—
Rotterdam, 53 t. £318

Zinc Chloride—
Bombay, 14 t. £520

Zinc Muriate—
Tampico, 30 t. 10 c. £366

MANCHESTER.

Week ending December 4.

Calcium Sulphate—
Antwerp, 100 brls.

Caustic Soda—
Aleppo, 100 dms.
Beyrout, 50
Lattakia, 15
Sfax, 4

Chemicals (*otherwise undescribed*)
Acre, 13 brls.
Beyrout, 15
Larnaca, 14
Lattakia, 15
Paraguay, 2 cks.
Tripoli, 13

China Clay—
Adana, 100 bgs.

Coal Products—
Aniline Colour
Antwerp, 4 kgs.
Germany, 16 1 cs.
Naphthylamine
Antwerp, 59 cks.
Pitch
Cette, 1,650 t.
Tar Oil
Genoa, 19 dms.

Disinfectant—
Bombay, 1 cs.

Dyestuffs—
Bark Extract
Antwerp, 6 cks.

Flux Skimmings—
Germany, 8 t. 14 c.

Glycerine—
Quebec, 5 dms.

Glue—
Rouen, 240 bgs.
Canada, 60
Rotterdam, 20 cks.

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Linseed Oil—
Famagusta, 3 brls.
Jaffa, 4
Larnaca, 2

Magnesia—
Tunis, 10 tres.

Manure—
Antwerp, 71 bgs.

Mineral White—
Antwerp, 71 cks.

Ochre—
Beyrout, 20 kgs.

Salammoniac—
Famagusta, 1 brl.

Salt—
St. John, N.B., 350 t.
Rotterdam, 200

Soap—
Aleppo, 22 cs.
Beyrout, 42
Bombay, 11
Damascus, 24
Mersyne, 9

Soda Ash—
Lattakia, 35 brls.

Sodium Acetate—
Alexandria, 1 ck.

Sodium Bicarbonate—
B. Ayres, 234 kgs.
M. Video, 67

Sodium Naphthonate—
Hamburg, 1 kg.

Sodium Silicate—
Tunis, 5 brls.

Tallow—
Bombay, 10 cks.
Stockholm, 4

Turpentine—
Beyrout, 2 cks.
Famagusta, 1 dm.

Zinc Ashes—
Antwerp, 7 t. 10 c.

Zinc Chloride—
Bombay, 40 cks.

Zinc Oxide—
Jaffa, 7 brls.

GLASGOW.

Week ending December 5.

Ammonium Carbonate—
Stockholm, 1 t. 10 c.

Ammonium Muriate—
Genoa, 6 t. 1 c. 1 q.

Ammonium Sulphate—
Kobe, £8,011
Rotterdam, 50 t.

Boiler Disincrustant—
Bombay, £53

Boracic Acid—
Rotterdam, 1 t. 1 c.

Borax—
Rotterdam, 15 t. 9 c.
Amsterdam, 3 17 2 q.

Carbon Bisulphide—
Sydney, 1 t. 5 c. £147

Caustic Potash—
Melbourne, 1 t. 1 q.

Chemicals (*otherwise undescribed*)
Melbourne, £30
Singapore, 38

Coal Products—
Benzol
Rotterdam, 15 t. 7 c.
Creosote Oil
Malta, £50
Naphtha
Australia, £64
Pitch
Italy, £40
Danzig, 277 t. 12 c.
Rochefort, 1,196
Alexandria, a qty.
Tar
Rangoon, £107
Alexandria, a qty.

Dyestuffs (*otherwise undescribed*)—
Australia, £72

Dyestuffs—
Extract (*otherwise undescribed*)
Rotterdam, 4 c.

Fish Oil—
Genoa, £1,081
Leghorn, 73
Naples, 54
Rotterdam, 5 t. 3 c.

Fish Oil—
Fiume, 27 t. 13 c. 1 q.
Trieste, 27 19 3
Hamburg, 37 7 3
Marseilles, 312

Glue—
E. London, 10 c.

Guano—
Yokohama, 47 t. 7 c. 2 q.
Hamburg, 50 6 3

Iron Oxide—
Newcastle, N.S.W., 2 t.

Linseed Oil—
Melbourne, 7 t. 6 c. 2 q.
Rockhampton, 19 1
Sydney, 26 10 1
Alexandria, 24 16 2
Singapore, 1 10 2
Alexandria, 11 3
Egypt, 2 4 1
Malta, 5 8 2
St. Johns, N'fld., 3 2

Paraffin Wax—
Bombay, 2 t. 17 c.
Leghorn, 61 6 2 q.
Messina, 3 19 2
Naples, 7 8
Alexandria, 2 11 3
E. London, 5 11
Hiogo, 31 13
Marseilles, 3 19 3
Trieste, 3 9 3
Venice, 22 8 2
Christiania, 2 9
Paris, 9 12 3
Rouen, 6 3 1
Smyrna, 3 4
U.S.A., 2 10 3

Phosphate of Lime—
Melbourne, 1 t. 7 c. 3 q.

Potash—
Alexandria, 6 t. 2 c. 3 q.

Potassium Bichromate—
Alexandria, 19 c. 2 q.
Hiogo, 8 t. 18 2
Venice, 1 4
Amsterdam, 5 6
Christiania, 16 2 27 lb.
Rotterdam, 19 6
M. Video, 1 4 1
Stockholm, 1 1

Potassium Cyanide—
Fremantle, £1,074
Johannesburg, 316
Kobe, 320
Marseilles, 38

Red Lead—
Brisbane, 2 t.
Newcastle, N.S.W., 3
Rangoon, 4 16 c. 2 q.
Sydney, 4 10 2
Stockholm, 2 16 3

Rosin Oil—
Stockholm, 16 t. 5 c. 2 q.

Saltcake—
Melbourne 10 t. 13 c. 3 q.

Sheep Dip—
Sydney, £160

Soap—
Brisbane, 2 t.

Sodium Bichromate—
Bombay, 1 t. 2 c.
Rotterdam, 19
Stockholm, 1

Sodium Cyanide—
Johannesburg, £1,936

Sulphuric Acid—
Rangoon, £467

Tallow—
Egypt, 16 c. 2 q.

Turpentine—
Alexandria, £157

White Lead—
Melbourne, 2 t. 5 c.
Newcastle, N.S.W., 2
Rockhampton, 2 13 1
Rangoon, 7 4 1
Sydney, 11
Alexandria, 9 1

Zinc Oxide—
Sydney, 3 t. 4 c.

Zinc White—
Newcastle, N.S.W., 2 t.

HULL.

Week ending November 30.

Ammonium Sulphate—
Dunkirk, 500 bgs.
Italy, 300
Rotterdam, 350

Chemicals (*otherwise undescribed*)
Abo, 20 cks.
Antwerp, 5 18 cs.
Bergen, 703 slbs.
Bombay, 501
B. Ayres, 1,428 bgs.
Copenhagen, 40
Christiania, 470 / 500 33 dms. / 3 cs.
Danzig, 5 1
Dunkirk, 14
Drontheim, 10 935 slbs.
G'thenb'rg, 13 15 450 / 34 kgs.
Helsingfors 5 4
Karachi, 1,253 80 dms.
Konigsberg, 29
Libau, 4 20
Newfairwater, 20
Rotterdam, 21
Reval, 4
Stettin, 62 9

Coal Products—
Pitch
Leghorn, 252 t.
Tar
Copenhagen, 10 cks.

Cottonseed Oil—
Antwerp, 28 t. 13 c.
Amsterdam, 14 17
Christiania, 3
Dunkirk, 16 5
Danzig, 1 15
Genoa, 7 19
Gothenburg, 9 2
Hamburg, 85 15
Rotterdam, 188 5
Stettin, 16 9

Linseed Oil—
Amsterdam, 7 c.
Bergen, 14
Bombay, 42 t. 5
B. Ayres, 5 4
Christiania, 4 16
Hamburg, 13 16
Karachi, 4 16

Molasses—
Christiansund, 10 brls.

Salt—
Rotterdam, 5 cs.

Sheep Dip—
B. Ayres, 800 cs.

Soap—
Bombay, 18 brls.

Starch—
Naples, 10 cs.

Stearine—
Libau, 10 bgs.

Tallow—
Bombay, 30 cks.
Libau, 4 brls.
Riga, 87

Turpentine—
Bombay, 465 dms.
Hamburg, 15 cks. 10
Karachi, 110
Rotterdam, 21
Stettin, 6

Wax—
Libau, 22 bgs.

TYNE.

Week ending November 30.

Ammonium Carbonate—
Randers, 15 c. 3 q. £12

Antimony (Regulus)—
Hamburg, 5 t.
Libau, 10 c.
Rotterdam, 10

Barium Binoxide—
Hamburg, 34 t. 12 c. 2 q. 15 lb.

Bleaching Powder—
Bergen, 5 t. 4 c. 3 q. 26 lb.
Rotterdam, 15 5 3 2 0
Odense, 20 15 4
Stockholm, 50 3 3 25
Helsingfors, 206 2 3 6

Caustic Soda—
Hamburg, 16 t. 14 c. 3 q. 8 lb.
Copenhagen, 19 3 4
Antwerp, 4 18 2 18
Stavanger, 1 14 3 8
Genoa, 61 18 1 16
Stockholm, 49 3 3 6
Gefle, 6 1 3 14
Helsingfors, 4 18 2 18

Infusorial Earth—
Rotterdam, 5 t.

Litharge—
Hamburg, 1 t. 7 c. 2 q. 23 lb.
Genoa, 1 3 2 27

Red Lead—
Hamburg, 8 t. 19 c. 24 lb.
Genoa, 18 9 22
Stockholm, 5 16 3 q. 3
Gefle, 5 1 15

Soap—
Bergen, 1 t. 4 c. 12 lb.

Soda—
Stavanger, 10 t.

Soda Crystals—
Rotterdam, 5 t. 1 q. 27 lb.

Sodium Sulphate—
Bergen, 15 t.

Sodium Sulphide—
Genoa, 20 t. 1 c. 2 q. 16 lb.
Stockholm, 10 4 2 24

Tallow—
Genoa, 5 t. 7 c. 14 lb.
Helsingfors, 2 13

White Lead—
Hamburg, 5 t. 4 c. 7 lb.
Antwerp, 5 16 3 q. 13
Stockholm, 19 2 16
Gefle, 15 16

GOOLE.

Week ending November 30.

Ammonium Carbonate—
Rotterdam, 80 cks.
Copenhagen, 20
Hamburg, 11

Chemicals (*otherwise undescribed*)
Antwerp, 10 bgs. / 15 cks. / 40 cs.
Amsterdam, 33
Copenhagen, 30
Hamburg, 93 165
Rotterdam, 15 102

Coal Products (*otherwise undes.*)—
Amsterdam, 105 cks. 8 btls.
Boulogne, 58 1 cs.
Hamburg, 1 17 dms.

Coal Products—
Pitch
Antwerp, 1,219 t.

Colours—
Antwerp, 2 cs.
Ghent, 4 pks.
Hamburg, 3
Boulogne, 35 cks. 7 3 dms.

Dyestuffs (*otherwise undescribed*)
Antwerp, 3 cks.
Rotterdam, 2 3 cs.

Gypsum—
Amsterdam, 100 bgs.

Manure—
Dunkirk, 285 bgs. 32 bls.

GRIMSBY.

Week ending November 27.

Basic Slag—
Esbjerg, 300 bgs.

Chemicals (*otherwise undescribed*)
Hamburg, 24 cks. 15 kgs.

Colours—
Dieppe, 10 brls.
Malmo, 2
Hamburg, 1

Caoutchouc—
Halmstad, 3 cs.

Coal Products (*otherwise undes.*)
Dieppe, 27 brls.

Manure—
Hamburg, 462 bgs.

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PRICES CURRENT.

FRIDAY, December 13, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified.
The price in different localities may vary.

		£	s.	d.
Acids :—				
* Acetic 25% and 40%	per cwt.	9/-	&	13/-
* ,, Glacial	,,		39/-	
Arsenic S.G. 2,000°	,,		31/-	
* Fluoric	per lb.	0	0	4¾
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/1	
* ,, (Cylinder), 30° Tw.	,,	0	2	9
* Nitric 80° Tw.	per ton	14	15	0
* Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	11
* Sulphuric (fuming 70%)	per ton	6	0	0
* ,, (Pyrites, 168°)	,,	3	2	6
* ,, (,, 150°)	,,		30/-	
* ,, (free from arsenic, 145°)	,,		36/-	
* Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10¾
*Acetone	per ton	80	0	0
Arsenic, white powdered	nett ,,	26	10	0
*Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric (in slabs)	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	106	0	0
*Ammonia, Anhydrous	per lb.	0	1	1
* ,, .880	per ton	24	0	0
* ,, .920	,,	13	0	0
,, Carbonate	per lb.	0	0	3½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey) London	,,	11	15	0
,, ,, ,, Hull	,,	11	16	3
,, ,, ,, Manchester	,,	11	15	0
*Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4¾
Antimony	per ton	35	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native). 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/-	to	65/-
*Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
* ,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5¾
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6
Coal Tar Products and Dyes :—				
Alizarine (artificial), 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40-45% A, f.o.b. L'don, per unit.	per cwt.	1½d.	to	1¾
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	8¼
Carbolic Acid (crude 60°)	,,	0	1	8
,, (crystallised 40°)	per lb.	0	0	5⅛
,, (liquid 95/97%)	per gallon	0	1	3
* Creosote (ordinary), naked	,,	0	0	2¾
* ,, (filtered for Lucigen light)	,,	0	0	3¼
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0
* Pitch, f.o.b. Liverpool or Garston	,,	1	1	0
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	59	0	0
,, Sulphate	,,	22	0	0
,, Oxide (copper scales)	,,	54	0	0
*Glycerine (crude), 80%	,,	37	10	0
* ,, (distilled S.G. 1260°)	,,	61	10	0
Iodine	nett per oz.	0	0	6
*Iron Sulphate (copperas)	per ton	1	12	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	16	0	0
,, Litharge Flake (ex ship)	,,	18	0	0
,, Acetate (white) ,,	,,	28	15	0
,, ,, (brown) ,,	,,	25	0	0
,, Carbonate (white lead), pure	,,	21	10	0
,, Nitrate	,,	32	0	0

		£	s.	d.	
Lime, Acetate (brown) (ex ship)	per ton	7	15	0	
,, ,, (grey) ,,	,,	11	10	0	
Magnesium (ribbon and wire)	per lb.	1	0	0	
,, Chloride	per ton	3	7	6	
,, Carbonate	per cwt.	1	17	6	
,, Calcined Magnesia	per ton	18	0	0	
,, Sulphate (Epsom Salts)	,,	3	0	0	*
Manganese, Sulphate,	,,	17	10	0	
,, Borate	per cwt.	2	2	6	
,, Ore, 70%	per ton	6	5	0	
Methylated Spirit, 64° (Industrial)	per gallon	0	1	8	*
Naphtha (Wood), Solvent	,,	0	2	4	*
,, ,, Miscible, 60° O.P.	,,	0	1	10	*
Oils :—					
Cottonseed	per ton	22	10	0	
Linseed	,,	22	10	0	
Stearine	,,	32	0	0	
Phosphorus (yellow)	per lb.	0	1	5	
,, (red)	,,	0	1	11	
Potassium, Bichromate	nett ,,	0	0	3½	
,, Carbonate, 90% (ex ship)	per ton	19	10	0	
,, Chlorate	per lb.	0	0	3½	
,, Cyanide, 98%	,,	0	0	8¾	
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0	
,, ,, ,, 75/80%	,,	21	0	0	
,, Potash Hydrate Liquid, 50%	,,	14	10	0	*
,, Nitrate (refined)	,,	23	10	0	
,, Permanganate (small crystals)	per cwt.		36/-		
,, Prussiate (yellow)	per lb.	0	0	5¾	
,, Sulphate, 90% (ex ship)	per ton	9	15	0	
,, Muriate, 80% ,,	,,	9	0	0	
Silver (metal)	per oz.	0	2	1¾	
Sodium (metal)	per lb.	0	3	0	
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r w'ks.	5	15	0	
,, ,, (Caustic Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Carb. Soda-ash), 48% ,,	,,	5	10	0	
,, ,, (Alkali), 58% (bags) ,,	,,	4	10	0	
,, ,, (Soda Crystals) (bags)	,,	2	17	0	
,, Acetate (ex ship)	,,	17	5	0	
,, Arseniate, 45%	,,	22	0	0	
,, Borate (Borax), Crystals	,,	16	0	0	
,, Bichromate	per lb.	0	0	3	
,, Cyanide (100% basis)	,,	0	0	7¾	
,, Chlorate	,,	0	0	3½	
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0	
,, ,, (74% C. Soda) ,, ,,	,,	10	15	0	
,, ,, (70% C. Soda) ,, ,,	,,	10	5	0	
,, ,, (60% C. Soda) ,, ,,	,,	9	5	0	
,, ,, (pure liq. 90° Tw.) ,,	,,	4	15	0	
,, 77/78% powdered (99% hydrate)	per ton	12	10	0	
,, Bicarbonate (cwt. kegs)	,,	6	15	0	
,, Hyposulphite	,,	6	5	0	
,, Manganate, 25%	,,	20	0	0	*
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	3	
,, Nitrite, 98%	per ton	29	10	0	
,, Phosphate	,,	9	5	0	
,, Prussiate	per lb.	0	0	3½	
,, Silicate (glass)	per ton	5	7	6	
,, ,, (liquid, 100° Tw.)	,,	3	15	0	
,, Stannate, 40%	per lb.	0	0	9	
,, Sulphate (Salt-cake)	per ton	2	2	6	*
,, ,, (Glauber's Salts)	,,	1	12	6	*
,, Sulphide (crystals)	,,	6	5	0	
,, Sulphite	,,	6	5	0	
Strontium Hydrate, 100%	,,	9	0	0	
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½	
,, Barium, 95%	,,	0	0	3½	
,, Potassium	,,	0	0	7	
Sulphur (Flowers)	per ton	6	10	0	
,, (Roll Brimstone)	,,	6	5	0	
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6	*
Superphosphate of Lime (26%)	,,	2	10	0	
Tallow	,,	32	10	0	
Tin Crystals	per lb.	0	0	9½	
,, English Ingots	per ton	131	0	0	
Zinc (Spelter)	,,	20	15	0	
,, Chloride (solution, 100° Tw.)	,,	5	15	0	*
,, Sulphate, Crystal	,,	6	15	0	

Otherwise, prices usually include packages.

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THE

CHEMICAL TRADE JOURNAL

AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

THE RAILWAY PROBLEM.

THE important agreement between the Great Northern and Great Central Railway Companies which was formally announced on Saturday last marks a significant development in railway working, and as such it is of considerable interest to all manufacturers and traders. The virtual amalgamation of the two lines had been foreshadowed by Mr. Sam Fay, the General Manager of the Great Central Company, and its effect may be summarised in his statement that "when the arrangement is completed, it will be difficult to say where the Great Central terminates and the Great Northern commences."

The question of immediate interest to traders is the probable effect of such an arrangement so far as rates and efficiency of service are concerned. On this point the public has been assured by the officials that the development will be entirely in the direction of increased efficiency, and that the agreement has not been designed with a view to increasing freights. As to this we must wait developments, but in the meantime we may profitably glance at the reasons which have actuated the respective Boards in concluding this agreement. With regard to the estimates which have been current as to the great saving to be effected by the joint working of the two systems, it is pointed out by the *Manchester Guardian* that the amalgamation of the South Eastern and London, Chatham and Dover Companies, which came into effect in 1899, did not apparently have the effect of reducing the ratio of working expenses. Our contemporary proceeds to summarise the respective positions of the two great lines. Within the last few years the Great Central practically completed the ambitious scheme of extensions which have transformed it from a humble cross-country road into a great trunk line, running its own expresses from east to west and from north to south of England, and the Great Northern, the weakest of the old trunk lines, has begun to feel the competition of its enterprising neighbour and former ally very keenly. At the same time the Great Central, though gradually improving its position, has been groaning under the load of capital created to carry out its London extension. Moreover, the hand-to-mouth principle upon which it is compelled to conduct its finance is really costly, and the general interest charges, and charges for interest on Lloyd's bonds and the Railway Rolling Stock Trust, are now running at the rate of about £218,000. per annum.

The capital account of the Great Northern Co., although inflated by about £8,500,000. of nominal additions, is on a much sounder basis. The total expenditure works out at about £53,300. per mile, or £17,000. per mile less than on the Great Central, and the loan capital bears a much healthier ratio to the share capital. The general financial position of the Great Northern is also much more favourable than that of the Great Central. A comparison of the position of

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the two companies as to gross receipts, working expenses, and net revenue shows that, while the Great Northern is in the better position to-day, the Great Central is rapidly overtaking it, and having greater undeveloped resources would in time probably attain results relatively much more favourable. Both lines, however, show a very heavy proportion of working expenses to gross receipts—higher than that of any of the other heavy lines—and there can be no doubt that this is partly due to the struggle which each has had to obtain or retain traffic in competition with the other. It seems, on the whole, that the Great Northern directors have done well for their shareholders in maintaining under the agreement almost the whole of the advantage which they hold at present, whilst the Great Central shareholders have lived so long upon hopes and prospects that they will probably not be indisposed to sacrifice some of their more remote possibilities in return for a somewhat larger share in the proceeds of the partnership than that to which their present position would entitle them. If the public interest is duly safeguarded, the agreement may turn out to be a good thing for all parties.

Besides the question of the probable result on public convenience and rates of freight, there must also be considered the significance of what is in effect an amalgamation of the two systems. We recently called attention to the conclusions on the railway problem which were enunciated by Lord Brassey at the Autumnal Meeting of the Association of Chambers of Commerce. In summing up the position, Lord Brassey emphasised the fact that the railway companies are hard pressed; that it is difficult to maintain dividends, even on a modest scale; that competition is severe between rival systems; and that in his opinion some measure of State ownership would be the outcome of any inquiry into the problem by a Royal Commission. The recent labour troubles in the railway world have only served to emphasise the justice of Lord Brassey's summing up of the problem, and we are quite in agreement with the opinion expressed by the *Manchester Guardian*, that while it is useless to speculate as to the precise effect of joint working in the case of the Great Northern and Great Central Companies, there is good reason to hope that it will be possible, without sacrificing public interests or general efficiency, to achieve substantial economies; and, further, that "all who look towards nationalisation as a future ideal in railway administration will watch with particular interest the development of a policy which in its practical application (although not, of course, in its intention or essence) has much in common with that of the management by a State Board of all the railways as a joint undertaking."

The Society of Motor Manufacturers and Traders, which is the official body of the motor industry in the United Kingdom, and which organises the Olympia Motor Exhibitions, is taking an important step for the development of the trade by the organisation of its *Trade Information Department*, so as to be capable of dealing promptly with any inquiries with regard to motor goods. It must often happen that the names and addresses of makers of certain classes of motor vehicles (especially for commercial purposes), or the makers of, or agents for, some particular type or brand of motor goods, are not known to those desiring to purchase or obtain particulars of same. In all such cases it is now only necessary for the inquirer to notify his requirements to the Society, Maxwell House, Arundel-street, Strand, London, W.C., when these will be circulated to the traders manufacturing or dealing in the articles in question.

THE LABOUR MARKET.

The Board of Trade *Labour Gazette* states that employment in November showed on the whole some decline, both as compared with the previous month and as compared with a year ago. In coal mining and in the textile trades generally employment remained good, and there was a seasonal improvement in the printing and bookbinding trades. In the building and shipbuilding industries it was bad. As compared with a year ago there was an improvement in employment in coal mining, and in most of the textile and clothing trades, and a decline in the metal, engineering, building, and furnishing and woodworking trades. In the 272 trade unions, with a net membership of 639,678, making returns, 32,010 (or 5.0%) were reported as unemployed at the end of November, 1907, as compared with 4.7% at the end of October, 1907, and 4.5% at the end of November, 1906.

Twenty-three new disputes began in November, as compared with 31 in the previous month, and 21 in November, 1906. The total number of workpeople affected by disputes which began or were in progress during November, 1907, was 13,210, or 7,056 less than in October, 1907, and 29,429 less than in November, 1906. The aggregate duration of all the disputes of the month, new and old, amounted to 227,400 working days, or 97,900 more than in October, 1907, and 290,400 less than in November, 1906. Definite results were reported in the case of 18 disputes, new and old, directly affecting 2,900 persons. Of these 18 disputes, 4 were decided in favour of the workpeople, 8 in favour of the employers, and 6 were compromised.

The changes reported in November affected 284,300 workpeople, of whom 280,800 received advances and 3,500 sustained decreases. The number whose wages were increased included 110,000 coal miners in Durham, and 165,000 in South Wales and Monmouthshire. The total computed effect of all the changes reported was a net advance of about £10,700. per week.

NITRATE OF SODA.

The labour troubles in Chili referred to in our last issue have quickly developed, strikes having occurred not only at most of the loading ports, but on the Pampa. The workmen not unreasonably demand compensation for the depreciation of the currency in which they are paid, and several thousands have marched down to Iquique from the works in Tarapaca, in order to submit their grievances to the authorities; operations have been suspended at some thirty oficinas, and troops have been despatched, the situation being considered critical. In the present temper of the men, excesses are to be feared, but a settlement should be arrived at at an early date unless market considerations, as on some previous occasions, weigh in the balance. In the meantime only 77,300 tons were cleared for Europe in the first half of this month, out of 208,000 tons loading at its commencement, and the December total will evidently be considerably short of the estimates; the quantity shipped by steamers (23,000 tons) was, however, as large as that in the whole of the month last year, and some of the boats chartered for the United States are not unlikely to be diverted to Europe on account of the American financial crisis. As we anticipated a week ago, holders of nitrate cargoes afloat are asking more money, and spot prices on the Continent are nominally harder, but buyers so far do not respond. The quotation for prompt shipment from Chili is again lower, at 8s. 1½d. per quintal, the disposal of the enormous accumulation of stocks having become a most serious problem.

Welsbach Incandescent Gas Light Co.—The directors have declared an interim dividend of 6% per annum for the half-year ending September 30.

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THE LATE LORD KELVIN.

WE regret to record the death of Lord Kelvin, which took place on Tuesday last, at his Ayrshire residence, Netherhall, Largs.

The Right Hon. William Thomson, first Baron Kelvin, O.M., G.C.V.O., D.C.L., LL.D., F.R.S., was born at Belfast, on June 26, 1824. His father, James Thomson, LL.D., was Professor of Mathematics at the University of Glasgow, and made important contributions to mathematical science. His eldest brother, James, was Professor of Engineering at the same University.

William Thomson matriculated at the Glasgow University at the age of eleven. He remained for six years at the University, and although he never graduated there he distinguished himself by gaining many prizes in mathematics and natural philosophy, including the University prize for his essay on "The Figure of the Earth." In 1841 he entered Peterhouse College, Cambridge, where he graduated in 1845, when he was Second Wrangler and first Smith's Prizeman; this prize is the chief Cambridge distinction in experimental science. Immediately after graduating, he was elected a Fellow of his College. In 1842, at the age of 18, he published, in the *Cambridge and Dublin Mathematical Journal*, a series of remarkable papers, in which he foreshadowed many of the most important investigations of his later life.

After leaving Cambridge, Thomson went to Paris, where he worked in the laboratory of Regnault, and in 1846, at the age of 22, he was appointed Professor of Natural Philosophy at the Glasgow University. In that year also he became editor of the *Cambridge and Dublin Mathematical Journal*, and during the next seven years he collaborated with many of the mathematicians of the day, including Stokes, Cayley, De Morgan, Salmon, and Sir W. Rowan Hamilton.

At the meeting of the British Association in 1847, at Oxford, he made the acquaintance of Joule, of Manchester, who was then enunciating his dynamic theory of heat. This meeting was the beginning of a life-long friendship between the two great physicists, and resulted in the well-known joint researches of Joule and Thomson in thermo-dynamics.

Photo: London Stereoscopic Co., Ltd.

The personal and scientific qualities of the late Lord Kelvin cannot be better summarised than in the admirable appreciation, from the pen of Sir Oliver Lodge, which appears in the *Birmingham Daily Post*, and which we quote in full. Sir Oliver Lodge says:—"The simple lovable personality of Lord Kelvin was doubtless known to many, but only those engaged in scientific work could have any adequate idea of the immense amount of brilliant achievement which we owe to him, nor is it easy for the general public to realise the depth of the feeling with which he was regarded by his co-workers in physical science. The enthusiasm which he was able to throw into scientific problems was contagious, his presence at the reading of a paper, or a discussion, gave it at once a possibility of living interest, for if there was a germ of new truth or real value he was almost sure to ferret it out and exhibit it in its relation with other keenly apprehended facts and first-hand experiences in his unexampled store. Of second-hand or text-book information he was no great master, it was not in reading and cyclopædic knowledge that his greatness lay; it lay in his intense originality and vivid first-hand experience of physics or natural philosophy through more than half a century. Indeed, how much of that science is not due to him! Constantly, when lecturing to students, one has to quote, as the root or germ of whole departments of natural knowledge, some fruitful and epoch-making memoir of this great leader. *Facile princeps* in the world of physical science, the attitude of a scientific student to Kelvin is like the attitude of a citizen to Royalty; although to the outside public, ignorant as they are of science, chiefly by reason of the miserable system of secondary education which has too long survived, the name of some illustrious inventor like Edison may seem almost equally potent. The invention and bringing into use of many real conveniences is not a matter to be despised. Ingenuity and hard work are necessary to overcome the purely scientific difficulties; and afterwards much energy and a combination of qualities are necessary to overcome the inertia of officials and get them to realise the advantage it will be to them to change old ways for new. This, indeed, is often the hardest part of the work, and it is work at which Lord Kelvin's characteristic personal attributes made him very successful. Perhaps only two of those inventions appeal strongly to workers in pure science: one is the quadrant electrometer, the other is the receiving apparatus for ocean telegraphy. About the electrometer I will say no more here; it is so familiar an instrument that unless one has lived in the prehistoric period it is difficult to realise the step its introduction marked. But the telegraphic receiving instruments—the mirror galvanometer of 1857, and the siphon recorder and curb-key of later date—these represent to the physicist the outcome of a magnificent theory of cable telegraphy, wherein the problem of ocean signalling was worked out mathematically, amid the derision and unbelief, and of course total non-comprehension, of many self-styled practical men.

"But if these things were all that Lord Kelvin had done, he would not be revered as he is by the scientific world. Nor was it his teaching capacity that excited this feeling. He had, it is true, taught and "enthused" successive generations of senior students—not the general babel of undergraduates, but those fit though few who were worthy of their teacher; and he helped to bring into being that new weapon of instruction, the physical laboratory in all parts of the world. His pupils are to be found in the universities of America, of Australia, of India, and of Japan; indeed, every physicist on the planet is in a true sense his pupil. For now, at last, what is it that we really owe to his genius? Not this or that ingenious device or practical result, but new chapters of knowledge; whole departments of science start from his pioneering work.

"The modern theory of electricity, developed so brilliantly by Clerk Maxwell, was begun by him. The science of thermo-dynamics owes much to him; the theoretical laws of thermo-electricity were wholly worked out by him; and to him long ago was due the theory of those electric oscillations which were elaborated practically by Hertz, and have excited some popular interest as affording a method of wireless telegraphy. In the higher regions of optics also he worked much, and in his Baltimore Lectures and elsewhere strove to unveil the mystery of the

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connection between ether and matter, as revealed in the facts of radiation, fluorescence, phosphorescence, selective absorption, and dispersion. The definition and the experimental determination of the absolute zero of temperature are both due to him. The vortex theory of matter constitutes one of his most brilliant but incompletely worked out speculations. The kinetic theory of its elasticity and rigidity is a definite contribution to that view of the physical universe which seeks to resolve the whole of merely material existence into the two fundamental entities—ether and motion. Let anyone ask what is the size of an atom, and he is referred to the work of Lord Kelvin. Let him ask what is the age of the earth: and if he mean anything definite by this question—if he mean, for instance, what time has elapsed since the earth was a molten mass beginning to cool, it is again to Lord Kelvin that he must go.

"And then the tides; all the higher mathematical work on the tides, with their various causes and perturbations, is based on Kelvin's pioneering work, and to him all writers on this abstruse subject look up and defer as their master. His tide-predicting machine is at work too, calculating automatically the future tides of the Indian Ocean, in a branch of our Nautical Office. Before he took his degree at Cambridge his name was known over Europe as that of a brilliant young mathematician; the beggarly elements learnt by schoolboys—trigonometry and the like—must have been familiar to him, under the instruction of his father, before the age of ten. Happy in the circumstances of his education, pertinacious in his unwearying industry, and undistracted by other interests from a constant devotion to definite dynamical science—narrow, perhaps, in some of its aspects, but all the more intense for that—he stands before us a monument of human power and influence, one of the benefactors of the human species, one who was happily preserved with hardly diminished energy for sixty years of peaceful epoch-making work, one on whom posterity will heap high honours and will regard with feelings of envy us of the recent generation who were illumined by his living presence."

Lord Kelvin's honours were many and varied. He was LL.D. of the Universities of Edinburgh, Cambridge, Dublin, Montreal, and Bologna; D.C.L. of Oxford, M.D. of Heidelberg, F.R.S., P.R.S.E., Foreign Associate of the French Academy of Sciences, a Grand Officer of the French Legion of Honour, Commander of the Belgian Order of Leopold and Knight of the German Order "Pour le Merite"; re-elected in 1872 a Fellow of St. Peter's College, Cambridge; three times President of the Royal Society of Edinburgh; from 1890 to 1895 President of the Royal Society, London; and in 1871, President of the British Association at its meeting in Edinburgh. In 1892 he was raised to the peerage, and assumed the title of Baron Kelvin, of Netherhall, Largs. The honouring of Lord Kelvin reached its culmination in 1896, when representatives of science and learning from the whole civilised world met at Glasgow to celebrate the jubilee of his professoriate.

We cannot more fittingly conclude this obituary notice of one of the greatest scientists of our day than by quoting a few of the handsome tributes which have been paid to his memory by our daily contemporaries.

In a leading article, the *Times* says:—"We announce, with profound regret, the death of Lord Kelvin, an event which will be deplored wherever science is honoured throughout the world. The universal regret will not be of the qualified kind that follows the departure of a great man who has outlived his faculties and become for the present generation *magni nominis umbra*. Notwithstanding his eighty-three years complete, Lord Kelvin remained an active thinker and worker, a force in the scientific world, and a referee for younger men in cases of doubt and difficulty. . . . It has been said that Velasquez is the painter of painters, and in the same sense it may be said that Lord Kelvin is the man of science of men of science. Only those who had climbed the minor peaks could fully appreciate the height of the pinnacle on which he stood. . . . Lord Kelvin's intellect was distinguished by range and flexibility, while his achievements are impressive by their variety and mass. . . . He was a daring and subtle theoriser; he was an eminently practical inventor; and he was a shrewd man of business. . . . When he said that all science is one science, he was saying the same thing as Carlyle, and he meant it in a wider sense than some readers may at first perceive. He did not merely mean that all the 'ologies' are subject to the same laws and must be consistent before they can be true, but also that they are all parts of the science of life, and are akin to the common observation of common things. . . . Finality is, indeed, the note of Lord Kelvin's achievements. He is not found advancing the solution of a problem by a stage and leaving it, his own initiative exhausted, to be carried forward by other men. When he is done with the matter there is no more to be done. The problem is solved, once and for all. . . . Lord Kelvin had in large measure the vitality, the elasticity, and the capacity for being acutely and vividly interested in the things about him, which keep the spirit young and enable a man to 'bear it out even to the edge of doom.' Yet, though in the best sense an optimist, full of faith in the possibilities of science, and keen to the last to grasp the bearing and promise of any new phenomenon, none knew better than he—it were to be wished that many of smaller attainments knew so well—the inexorable limitations. He was never of those who at each new discovery talk as if the last veil in the Temple of Isis were about to be torn asunder, disclosing the goddess in all her awful beauty. It needs the modesty of greatness to say after 55 years of strenuous and successful work—'I know no more of electric and magnetic force, or of the relations between ether, electricity, and ponderable matter, or of chemical affinity, than I knew and tried to teach my class students in my first session as professor.'

The *Birmingham Daily Post*, in an editorial reference, says:—'Lord Kelvin was a link with the early days of the nineteenth century, a period that witnessed many of the triumphs of modern thought. Essentially, a thinker rather than an appropriator or improver of the ideas of other men, William Thomson became one of the originating forces from which others drew their inspiration. A pioneer in various departments of research, an unwearied investigator of the secrets of Nature, a patient, humble-minded man who had the good fortune to receive during life acknowledgment of his surpassing merit, he has passed away as full of honours as of years. Lord Kelvin was one of those master-minds which arise for the illumination of mankind only at comparatively distant epochs. Had he lived in the infancy of science as we now know it he might have achieved discoveries worthy to rank with those of a Copernicus or a Newton. . . . Probably the most noticeable feature of his mental outfit was just that union of the imaginative with the hard practical mind which from time to time produces the magnificent intellectual dowries that stand as lighthouses down the ages. From the days of Lucretius to our own we find such occasional conjunctions playing great parts in the history of mind. . . . His practical nature was evidenced in a thousand ways, as the many patents standing in his name bear witness. Yet his innate modesty characterised the efforts of his long and amazingly fruitful career as failure. This in itself is a tribute to the greatness of the man. 'He knew this only, that he nothing knew.' Like Newton, with his simile of a child gathering pebbles by the sea-shore, Lord Kelvin's study of natural forces served to impress upon him the vastness of what remains to be known. That he was, in the words of Sir Oliver Lodge, a simple, lovable personality can after this readily be accepted."

The *Liverpool Daily Post and Mercury* observes—"Only a future age can rightly measure Kelvin's exact place among original investigators of scientific truth, but that place must necessarily be high. There was a touch of misunderstood poetic imagination about one of his utterances—many years ago—in which he suggested that life may have been conveyed to this planet by a

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meteorite bearing its germs 'from the mossgrown ruins of some other world.' But at a gathering at University College four and a half years ago, he showed how firm was his belief in a creative power. Science, he then said, positively affirms creative power, and added, 'they only knew God in his works, but they were absolutely forced by science to admit and to believe with absolute confidence in a directive Power, in an influence other than physical, dynamical, electrical forces.' "

The *Manchester Guardian* says:—"Surely if any man was happy Lord Kelvin, who has just died, was. He has lived long; he had great genius; he used it to the full; he was not, like so many men of genius, baulked and tormented by poverty and the dulness of mankind; he did not, like many men of early-flowering mind, suffer from an early failure of zest or inspiration; his work was of that happiest and wholesomest kind which is neither wholly an affair of books nor wholly work of the hand, but compounded of both those ingredients; and its fruits, unlike the moralist's or statesman's, were those most satisfying fruits that you can touch and see, and that carry the glory of their production abroad on the binnacles of ships and along the routes of deep-sea cables. 'If you want to see his monument, look round you.' . . . Of his character no more fitting description can be given than that which FitzGerald wrote at Lord Kelvin's professorial jubilee in 1896: 'Enthusiastic for truth, sincere in all his dealings, sympathetic and helpful to all who are thrown in his way, fair and unprejudiced in his judgments of others, thoughtful and loving, his character is such that his disciples venerate and love as well as admire him, and the whole of science is better for such a leader.' "

THE CHINESE VEGETABLE OIL INDUSTRY.

AT Shanghai, at the end of 1906, there were three cottonseed mills at work, two of them fitted with American and one with mixed American and British machinery. Another is almost completed, and two others are in course of construction. A mill fitted to extract oil or fat from bones and to crush different kinds of beans and seeds is about to be inaugurated, also with American machinery, under foreign auspices. There is also a cotton seed oil mill at Tungchow, in the centre of the best cotton growing district. The Shanghai mills are supplied with seed from the interior as well as from the local ginning and cotton mills. The seed, which eleven years ago cost only 40c. per picul (133⅓ lbs.), has gradually risen in value to 1dol. 35c. per picul for white, and 1dol. 45c. per picul for black. The latter has a thinner pellicle, and contains more oil than the former. Kiangsu seed, especially Tungchow and Taitsang, is reputed the best, Chekiang seed having a thicker pellicle and less oil; but the percentage of oil differs with the dryness or dampness of the weather, and the following figures may be taken as approximately accurate:—

	Percentage.	
	Damp Season.	Dry Season.
Oil	12 ..	7
Cake	40 ..	32
Husk and refuse.. ..	48 ..	61

The seed, when it arrives at the mill, is roughly cleaned by being passed down inclined chutes with perforated bottoms, which allow the sand and dirt to escape, and at the ends of the chutes there are magnets arranged to catch nails and other pieces of iron with which the seed has been loaded. It is then passed through a cleaning machine, which removes the hairs and separates the seed from the pellicle. The hairs come out in a lap, and this cotton wool is sold locally to Japanese, who by means of primitive but ingenious wooden machinery convert it into yarn and twine for shop use. The cleaned seeds are then crushed, steamed, and the meal moulded on trays between layers of cloth, passed into the presses and crushed, about a minute elapsing between the crushing and the actual flow of oil, which gushes down into reservoirs built for its reception. From the reservoirs it is pumped into tanks, whence it runs into earthenware jars. In these jars it is purified by the addition of a quantity of baked and powdered oyster shells. The oil is sold locally as well as exported, most of the export going to Japan and Germany for use in the manufacture of soap; it is also used for cooking purposes and as an adulterant in bean oil, which is more expensive, the adulteration taking place in the retail shops. It is very difficult to get true prices in a country where fixed prices are the exception. At two mills visited recently, one gave 8dol., the other 8.50 taels per picul.

The customs abstract of statistics for 1906 lumps all vegetable oils together, and does not discriminate between the seeds producing them, but the Shanghai returns give 8,876 piculs of the value of 35,504 Haikuan taels as the export of cottonseed oil from that port to foreign countries, and 20 piculs as the export to other Chinese ports. The customs values are 4 Haikuan taels per picul, or about 4.50 Shanghai taels, a sum very much lower than any of the values given me at the mills.

In sympathy with the great increase in the export of oil seeds, seed cake advanced in weight from 851,291 cwts. in 1905 to 1,079,860 cwts. in 1906, and in value from £97,236. to £140,908. Nearly all goes to Japan.

Other seeds claiming attention are sesamum and rape. The export of the former almost doubled in 1906, and the demand, backed by an advance of 20% on ordinary prices, had to remain unsatisfied. This brisk demand was apparently due to a shortage in Indian supplies. In 1904 the export from India was 3,252,781 cwts.; in 1905 it was 1,964,029 cwts., and only 1,686,837 cwts. in 1906. China is quite capable of taking a larger share in this trade. Honan is the great centre of cultivation and production, and the peasantry must have blessed the Ching-Han (Peking-Hankow) Railway, which, traversing the province from north to south, enabled them to send their produce with all possible speed to a clamouring market at Hankow. The bulk of the seed was, however, from the harvest of 1905, for the heavy rains of 1906 proved disastrous to the crop. An unusually rainy season proves injurious to a province like Honan. As far as the eye can reach on both sides of the railway Honan is as flat as a table, with exceedingly few watercourses; in dry weather agriculture depends entirely on well irrigation, and in heavy rains there is no possible means of draining off the superfluous water, with the result that the crops are submerged and destroyed. At Hankow there are several seed-cleaning machines of British and German manufacture which give excellent results. The total export of sesamum seed in 1906 was 1,273,997 cwts., compared with 685,382 cwts. in 1905, and the value rose from £353,441. to £742,699. The seed finds its way for the most part to the Continent of Europe and Japan, and in 1906 one steamer carried away 5,000 tons from Hankow direct to Marseilles. Nearly all the rape seed, the export of which advanced from 23,513 cwts. in 1905 to 152,278 cwts. in 1906, goes to Japan. It was valued at £63,063.

The other seeds exported of any value are melon and apricot. The former goes to Hong-Kong, for re-entry into Southern China, and to Russian Pacific ports, where Russians and Chinese equally indulge in pine (*Pinus koraiensis*) and melon seeds. The apricot seeds, the bulk of which goes to Hong-Kong and Japan, are used mostly in confectionery. So plentiful as a rule is the fruit on the hills near Peking that it is allowed to drop from the trees, and the kernels afterwards collected and used for the production of apricot oil. In 1906 the value of melon and apricot seeds exported was £44,912. and £11,343. respectively.

LONDON NITRATE CO.—At the annual meeting of shareholders held in Liverpool recently, Mr. Frank Tobin, who presided, congratulated the shareholders upon an account showing the largest trading profit (£46,129.) the company had ever made. He referred also to the "find" which the company had met in its exploration of new property, which showed a deposit of nitrate estimated at ten million quintals. To work this the directors proposed to put up a new oficina, which would take some two years and cost about £85,000., and as the profits of the company were now about £4,000. a month the directors hoped to pay the cost mostly out of revenue. The report and accounts were adopted, and a final dividend of 10s. per share was declared, which, with the interim dividend of 5s. previously paid, made a total for the year of 15s. on shares of the nominal value of £5., with £2. 10s. paid up. At an extraordinary meeting immediately following a resolution previously passed in favour of a reduction of capital by the return of 10s. per share was confirmed. The shares of the company are also to be reduced in denomination from £5. to £2. The Chairman intimated that the proposals for reduction would have to be confirmed by the Courts, and that it would probably be four months before the shareholders received the 10s. per share.

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EXPORTS OF SHELLAC FROM CALCUTTA.

THE following table shows the actual clearances of shellac, orange, garnet, and buttonlac, in chests, from Calcutta to all places from January 1 to July 31, 1907 :—

Destination.	Orange.	Garnet.	Bolton.
London	22,674	2,478	7,026
Glasgow	90	5	..
Manchester	25	..	25
Liverpool	69	50	..
Hamburg	12,745	1,421	1,136
Bremen	4,225	375	876
Rotterdam	2,765	200	75
Marseilles	443	66	96
Havre	425	25	80
Trieste	1,882	565	220
Naples	50	..	..
Genoa	741	..	100
Amsterdam	..	..	..
Dunkirk	2,025	275	286
Barcelona	25	..	..
Antwerp	50	..	..
Gottenburg	85	..	..
New York	52,848	1,025	2,519
Boston	2,384	..	..
Philadelphia	2,082	620	..
San Francisco	..	..	..
Melbourne	342	1	72
Sydney	142	..	15
Adelaide	52	..	2
Wellington	3	..	..
Auckland	25	..	..
Smyrna	7	..	..
Penang	1	..	..
Singapore	139	..	..
Hong Kong	339	..	..
Yokohama	148	..	..
Kobe	121	..	..
Beyrout	17	..	..
Bagdad	1	..	..
Shanghai	17	..	..
Brisbane	11	..	..
Aden	..	..	..
Fremantle	1	..	..
Constantinople	..	..	..
Jedda	1	..	..
Bangkok	6	..	..
Port Said	4	..	..
Batavia	18	..	..
Alexandretta	1	..	..
Sourabaya	15	..	..
Mauritius	1	..	..
Manila	41	..	..
Jaffa	2	..	..
Total Chests	107,688	7,106	12,528
Same time, 1906	75,322	8,012	10,998
,, 1905	69,156	8,54	11,190
,, 1904	61,156	12,295	11,776

PERSIAN IMPORTS AND EXPORTS.

THE following is a list of imports compiled by Consul W. F. Doty, of Tabriz, for 1905-06 :—

	1905	1906.
Gold, silver & platinum ..	450,787 ..	513,843
Matches	177,142 ..	291,773
Dyes	101,309 ..	192,691
Indigo	358,866 ..	154,865
Candles	90,637 ..	94,211
Copper and nickel ware ..	252,101 ..	44,076
The exports were :—		
Indiarubber, gums ..	996,470 ..	805,564
Dyes	93,517 ..	105,332

ENGLISH CROWN SPELTER CO., LTD.—An interim dividend of 6d. per £1. share for the year 1907 has been declared.

Continental Notes.

AT the beginning of the year, the *Zeitschrift für Chemische Apparatenkunde* offered prizes for the best papers on four different subjects :—(1) Apparatus for simple or fractional distillation in high vacuum. (2) Plant for the separation of liquids from solid substances suspended in them, for the purpose of separating the former or recovering of the latter (filtration). (3) Plant for stirring liquids with air. (4) On any subject connected with chemical plant. Two papers worthy of the prize of £15. were received under the fourth heading—one by K. Thelen, on the utilisation of heat in multiple effect evaporators ; and one by P. Spiess and A. Chatelan, on apparatus and process for the concentration of aqueous solutions. No papers of sufficient merit were received for the second and third subjects set, but for the first, E. Hausbrand submitted a communication on the steam consumption and number of plates in plant for the continuous distillation of alcohol, and parts of this paper are published in the issues for November 15 and December 1. The paper is largely mathematical in character. The concluding section has yet to appear ; when it has been published a brief account will be given of the conclusions arrived at.

The issues from October 1 to November 15 contain a paper on the calorimetric determination of the heating value of coal, with special reference to the standardisation of the calorimeter. The determination of the heat value of fuel is of great importance, not only in order to ensure the obtaining of good value for money, but also to ascertain whether the stoking of boiler furnaces is being performed in the best manner. The manipulation of a calorimeter requires, however, considerable skill and care, and the subsequent calculations are by no means simple, so that an inexperienced operator may easily obtain entirely false results. After the study of this paper by G. Jakob it should be possible to achieve accuracy.

In the issue of November 1 there is also a description of a resistance thermometer constructed of quartz glass. The advantage of a pyrometer that measures the temperature by the variation in the electrical resistance of a platinum wire is that the range over which it can be used is very extensive—from −200° to +900° C. For moderate temperatures up to +500°, mercury thermometers can be used, and for high ones up to 1,200°, thermo-couples upon the system of Le Chatelier can be employed, but in many cases it is more convenient to have one instrument that will cover the entire range. Hitherto, however, no satisfactory apparatus has been available, as the fireclay or other material used to support and protect the platinum resistance wire frequently failed, with the consequence that the instrument was damaged or destroyed. An instrument has now been introduced by Heræus in which the platinum is entirely embedded in quartz glass, and is thus fully protected against both chemical and mechanical influences. The wire is wound in a spiral round a quartz rod, and inserted into a narrow quartz tube, which is then fused together, so that the platinum lies close against the inner surface of the tube, and very rapidly acquires the correct temperature.

In this issue and that for November 15, R. Mewes writes on processes for the liquefaction of air and the separation of nitrogen and oxygen. He disputes the accuracy of Linde's theory of the liquefaction of air, and points out that no account has been taken of the cooling effect due to the mechanical work performed in driving the gases through the apparatus at a high speed. According to Pictet, the greatest quantity of liquid air that can theoretically be produced is 2.316 kg. per h.p. hour, but the greatest amount that has practically been made in the largest Linde machines is only ¼ kg. per h.p. hour. Mewes, however, claims to have devised a plant that will yield at least 1.6 kg.

Quartz glass may with advantage be applied, not only to resistance pyrometers, as above described, but also to thermo-couple pyrometers, as is pointed out by F. Hirschson in the *Zeitschrift f r Chemische Apparatenkunde*, for December 1. He states that the couple with platinum and an alloy of platinum with 10% rhodium can be used up to a temperature of 1,600° C., and where it is only required to measure temperatures up to 1,300° it is not necessary to make use of platinum. For the more moderate temperatures a couple of nickel and carbon can be employed, and this has the further advantage that the electromotive force produced is greater, and consequently the galvanometer does not need to be so very delicate. Where the temperatures are still more moderate the quartz sheath can also

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be dispensed with, and one of iron used instead. The paper gives descriptions and illustrations of pyrometers on this system.

The same issue contains an article by J. Kunick, on a new machine for drying liquid substances. The liquid is caused to evaporate very rapidly upon the surface of a rotating drum, which is heated with steam. It is used almost exclusively for the drying of milk, for which it is specially suitable, as the milk powder produced is not burnt or overheated, and is readily soluble.

Reports of Companies.

ESPERANZA NITRATE CO.

The report for the year ended June 30 states that during nine months of the financial year no nitrate was produced, and no profit and loss statement is therefore presented. The construction of the maquina has occupied a much longer period than anticipated owing to the late delivery of materials and the shortage of labour. At June 30 last £36,087. had been spent on the new oficina and equipment. A considerable stock of caliche has been collected ready for treatment as soon as the new maquina comes into operation, and the cost of providing it, combined with the delay in resuming the production of nitrate, has materially increased the amount owing to the company's Valparaiso bankers. This item appears in the balance-sheet at £32,891.

ANGLO-CALIFORNIAN OIL SYNDICATE, LTD.

At the first annual meeting of shareholders the Chairman (Mr. Magnus Mowat), in moving the adoption of the report, said it contained a summary of the work they had done up to the date of its issue, November 23 last. From the balance sheet, which covered a period of twenty-two months, the shareholders would note that the capital account stood at £50,000., out of which the company had called up in round figures the sum of £39,800., leaving over £10,000. available for further operations. The calls in arrear had been reduced to a nominal figure. The property, including the cost of transfer, stood at £17,481. There had, he was pleased to say, been a considerable advance in oil-bearing properties since they secured their 1,500 acres. A sum of £2,454. had been spent in plant, machinery, buildings and other articles; £9,672. was represented by £4,961. spent upon well No. 1 and £3,065. upon well No. 2, and £1,641. would be apportioned between the two wells in later accounts. Judging from the indications of oil on their property and reviewing the situation as a whole the prospects, notwithstanding somewhat slow progress, were distinctly encouraging. From a commercial point of view oil fuel was assured. The output in California in 1905 was 35,000,000 barrels, and in 1906 it fell to 30,000,000 barrels, and that figure would probably not be reached this year. On the other hand the consumption had increased and was likely to go on increasing. The economic situation in California was satisfactory, the industry having got into strong hands. He moved the adoption of the report and accounts.

Mr. John Chapman seconded the motion, which was carried.

NOBEL-DYNAMITE TRUST.

An extraordinary general meeting of shareholders was held on the 6th inst. (Sir Ralph Anstruther presiding), for the purpose of confirming a resolution passed at a meeting of the company held on November 21 last. The Chairman proposed the resolution by which the holders of a 75% majority of the preference shares for the time being issued may consent to the creation or issue of any shares ranking equally therewith, and such resolution shall be binding upon all the holders of such preference shares.

Sir Richard Awdry seconded the resolution, which was unanimously agreed to.

FLORENCIA NITRATE COMPANY, LTD.

The report for the period ended March 31 states that the construction of the maquina was completed in April, 1906, when the production of nitrate of soda was commenced. After a successful working for three months the water supply gave out, and it was decided to shut down the works until the water system of the Antofagasta and Bolivia Railway Company, Ltd., was installed. The supply from this source is now in operation, and work was resumed in October last. An issue of second debentures to the amount of £30,000. was made in January, 1906, to meet the additional expenses incurred by the extraordinary delay in the erection of the plant, but it has been found necessary to increase this by a further £70,000., making a total issue of £100,000., the whole of which has been subscribed. It is proposed to extend the borrowing powers of the company, which are at present limited to £80,000.

PACIFIC NITRATE COMPANY, LTD.

The report for the year to June 30 states that the profit and loss account shows the London expenses from the inception of the company (June 21, 1905) to June 30, including office expenses and salaries, directors' fees, legal expenses, etc., less interest and discount and transfer fees, as £3,796., to which has been added:—Debenture interest from July 1, 1905, to June 30, 1907, £20,292., making a total of £24,089.; less profit on working oficinas, £12,180., leaving a debit balance to be carried forward of £11,908. The poor results shown are accounted for by the unavoidable delay in erecting the machinery owing to scarcity of labour and congestion in the port of Antofagasta. There have also been minor difficulties connected with the water supply and those incidental to the starting of new establishments. These the directors are informed by the coast agents are now being overcome.

KINTA TIN MINES, LTD.

The accounts for the year ended June 30 showed that 135½ tons of black tin, dressed and ready for sale, on the local market, have been produced by the monitors working on the company's land. The ore has been sold for £14,829., or an average of £109. 8s. 9d. per ton. The rent received for the monitors leased to the Chinese owner of the adjoining property was £9,640. The gross amount earned by the company during the period under review was £23,542. After deducting the expenses of working the property and its administration, both in the Federated Malay States and London, a net profit of £15,192. is shown. From this must be deducted £86. difference on exchange, £215. written off pipe line account, £144. loss on Consols sold, and £139. provision for income tax, leaving £14,607., and this, added to the £1,480. brought forward, gives £16,087. available for distribution. The directors have paid interim dividends amounting to 10%. The directors are entitled to a further remuneration amounting to £430., leaving £9,657. now to be dealt with. From this the directors recommend a further dividend of 2½%, making 12½% for the year, and that £8,157. be carried forward.

CASSEL CYANIDE CO., LTD.

The report states that the profit and loss account shows a credit balance of £48,879. Deducting the interim dividend of 10% paid in June, £8,812., there remains £40,066., which the directors recommend should be disposed of as follows, viz.:—To reserve fund, £10,000.; in payment of a further dividend of 20% (free of income tax), making 30% for the year, £17,625.; in payment of a bonus of 10% (free of income tax), £8,812.; carried forward to next year, £3,629.

INDIARUBBER, GUTTAPERCHA, AND TELEGRAPH WORKS.

Including £42,224. brought forward, the net profit for the past year amounted to £99,033. Final dividend, 15s. per share, making 10% for the year, carrying forward £49,033. The laying of a cable between New York and Havana, manufactured to the order of the Commercial Cable Company, has been completed since the closing of the financial year.

QUEENSLAND COPPER CO., LTD.

For the year ended July 31, 1907, the net profit is £36,142., to which has to be added £12,621. brought forward, making a total of £48,764. The following dividends have been declared:—Preference No. 6, payable February 13, 1907, 6%, £4,800.; ordinary No. 3, payable February 13, 1907, 3%, £4,005.; preference No. 7, payable May 15, 1907, 4%, £3,337.; ordinary No. 4, payable May 15, 1907, 5½%, £7,342. £29,278. carried forward (subject to directors' commission). Notwithstanding the heavy expenditure on capital account, the directors had until recently hoped to be able to recommend a further distribution at this time on account of the past financial year. That, however, is not now considered advisable, owing to the serious fall in copper. The dividends paid in respect of the year amount, however, to little more than half the profit earned.

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THE NEW CUSTOMS TARIFF OF THE DOMINION OF NEW ZEALAND.

(*Continued from page 539.*)

SCHEDULE B.

Names of Articles.	Old Rates of Duty.		New Rates of Duty.	
	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.
CLASS I. *Foods, etc.*				
Salt	Free.		Free.	
CLASS V. *Drugs, etc.*				
Acids, viz.: Boracic, carbolic, chromic, citric, fluoric, formic, lactic, muriatic, nitric, oleic, oxalic, picric, pyrogallic, salicylic, sulphuric	Citric, formic, and lactic acids not specially tariffed; others free.		Free.	
Dextrine, n.o.e.	15% ad val.		Free.	
Disinfectants	Free.		Free.	
Drugs and chemicals, *viz.*:—				
Carnauba wax				
Catechu				
Cochineal				
Creosote, *crude or commercial*				
Crude distillates of coal-tar or wood, in vessels containing 10 gallons or over, for the manufacture of disinfectants in New Zealand				
Formic aldehyde and solution thereof				
Fusel oil				
Gall nuts				
Glycerine, *crude*				
Gums, *viz*: Arabic, benzoin, damar, tragacanth, artificial gum-arabic				
Liquefied gases, and compressed gases				
Naphthalene, crude or refined				
Saffron				
Sulphur				
Turmeric				
Alum, alum sulphate				
Ammonium chloride, or salammoniac, ammonium sulphate				
Arsenic and arsenates	A few not tariffed, but mostly Free (including water hardening chemicals for brewers' use).			
Borax				
Calcium carbide, chloride, sulphate, sulphite, and bisulphite; chlorinated lime				
Carbon bisulphide				
Copper sulphate, or bluestone, oxide of copper				
Iron sulphates			Free.	
Magnesium sulphite and bisulphite				
Manganese oxides				
Phosphorus				
Potash; pearl ash; potash, caustic, chlorate, cyanide, nitrate (or saltpetre), permanganate, prussiates, sulphite and bisulphite; metallic potassium				
Salts of thorium, zirconium, or other rare metals, and solutions thereof, including mixtures of same suited for the manufacture of incandescent mantles				
Silver nitrate in crystals				
Soda acetate, *crude*; soda ash; soda, arseniate, anhydrous carbonate, caustic, cyanide, bisulphite, hyposulphite, silicate, sulphate, sulphide, sulphite, nitrate, permanganate				
Metallic sodium, sodium peroride				
Zinc chloride				
(Note.—It is provided in the new Tariff that mixtures of any of the articles enumerated under this Schedule as drugs and chemicals, with each other, or with chemicals, or substances not enumerated, shall, if not provided for elsewhere in the Tariff, be charged as medicinal preparations not otherwise enumerated, or chemicals not otherwise enumerated, under Schedule A, Class V				
Insecticides for agricultural uses, also tree washes	Free.			

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Names of Articles.	Old Rates of Duty.		New Rates of Duty.	
	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.	General Tariff.	Tariff on Goods the Produce or Manufacture of some part of the British Dominions.
Scientific and philosophical instruments and apparatus, namely :— *Assay-balances* ; *laboratory retorts*, and *laboratory flasks* and other instruments and apparatus for chemical analysis, and assay work ; assay furnaces, including dentists', and jewellers' furnaces ; also such instruments, and apparatus, suited strictly for scientific and philosophical purposes, as may from time to time be approved by the Minister	Scientific and assay balances, retorts, flasks, and other appliances for chemical analysis and assay work, Free.		Free	
CLASS VII.				
Leather, etc.				
Tanning materials, *crude*	Free.		Free.	
CLASS XII.				
Metals.				
Crucibles	Free.		Free.	
Lead, in pigs and bars	Free.		Free.	
Zinc, plain sheet	Free.		Free.	
CLASS XIV.				
Oils, etc.				
Oils in vessels capable of containing one gallon of oil or more —*viz* : *Refined* mineral oils not exceeding in specific gravity .870 at 60° F. ; fish, penguin, mutton bird, seal, and whale oils .. .. Note.—It is stated in the new Tariff that mixtures of mineral or vegetable oils, with each other, or with fish, penguin, mutton bird, seal, whale, or other oils, shall be charged with duty (1) if imported in vessels capable of containing one gallon of oil or more, as oil n.o.e., including mineral and lubricating oil (class xiv., schedule A) ; (2) if imported in vessels having a lesser capacity than one gallon, 20% ad valorem.	Benzine in bulk, candlenut, fish, kerosene, penguin, palm, seal, and whale, Free.		Free.	
Paints and colours, not otherwise enumerated	Free.		Free to March 31, 1908 ; thereafter 10% ad val.	**Free.**
Turpentine ; turpentine substitute composed of volatile mineral oils, or of volatile mineral oils in combination with turpentine or other volatile vegetable oils ; liquid *driers* ; terebene	Free.		Free.	
Wood naphtha	6d. per gallon.		Free.	
CLASS XV.				
Agricultural Farm Products, etc.				
Linseed	£1 per ton.		Free.	
CLASS XVI.				
Miscellaneous.				
Candle-nuts, and candle-nut kernels	Free.		Free.	Free.
Candle-wick	Free.		Free.	Free.
Dyes ; dyestuffs ; and dyeing materials, *crude*	Dyestuffs and dyeing materials crude, free, not tariffed.		Free.	Free.
Manures	Free.		Free.	
Plaster of Paris	Free.		Free.	
Powder, *viz* : Blasting powder, and blasting meal	Free.		Free.	

(*To be continued.*)

HENRITE EXPLOSIVES, LTD.—Registration has been made of a trust deed dated November 21, 1907, to secure £2,000. debenture stock, charged on leasehold land and buildings at Dartford, Kent, and the company's undertaking and other property ; including uncalled capital, but excluding patents.

ANGLO-GERMAN TRADE.—The Bill shortly to be introduced in the German Reichstag dealing with Anglo-German commercial relations gives extensive statistical tables showing the great increase in the exchange of goods between the two countries. Last year Germany imported from Great Britain goods to the value of £74,050,000., while her exports to Great Britain totalled £76,350,000. These figures include the raw products which Germany receives from British colonies. The German exports to England were valued at £53,350,000. The value of the whole volume of German trade with Great Britain reached £94,550,000. being an increase of £6,500,000. as compared with the previous year.

THE PRICE OF LEAD.—The *Manchester Guardian* observes that the fall in lead is assuming serious proportions. The market has steadily receded since November 1, when the price of English pig lead stood at £22. 2s. 6d. per ton. The cause of the rapid decline during a month when other metals have been fairly steady is somewhat obscure, and various theories have been put forward to account for it. It has been suggested that Stock Exchange influence has been brought to bear with a view to certain operations in shares, but it seems more likely that the real reason is the contraction of business generally following upon the American collapse. Lead at £22. per ton is as high, proportionally and in comparison with the normal values of a long series of years, as is copper at £100. The American trouble is the direct cause of the fall in copper prices of rather more than one-third, and it is easy to believe that the same influence has worked upon the lead market. From £15. to £16. per ton for lead is a fairly reasonable price in ordinary times.

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THE NEW PATENTS ACT.

(*Continued from page* 541.)

Powers and Duties of Comptroller.

73.—Where any discretionary power is by or under this Act given to the comptroller, he shall not exercise that power adversely to the applicant for a patent, or for amendment of a specification, or for registration of a design, without (if so required within the prescribed time by the applicant) giving the applicant an opportunity of being heard.

74.—The comptroller may, in any case of doubt or difficulty arising in the administration of any of the provisions of this Act, apply to a law officer for directions in the matter

75.—The comptroller may refuse to grant a patent for an invention, or to register a design, of which the use would, in his opinion, be contrary to law or morality.

76.—The comptroller shall, before the first day of June in every year, cause a report respecting the execution by or under him of this Act to be laid before both House of Parliament, and therein shall include for the year to which the report relates all general rules made in that year under or for the purposes of this Act, and an account of all fees, salaries, and allowances, and other money received and paid under this Act.

Evidence, etc.

77.—(1.) Subject to rules under this Act in any proceeding under this Act before the comptroller the evidence shall be given by statutory declaration in the absence of directions to the contrary; but in any case in which the comptroller thinks it right so to do, he may take evidence viva voce in lieu of or in addition to evidence by declaration or allow any declarant to be cross-examined on his declaration. Any such statutory declaration may, in the case of an appeal, be used before the court in lieu of evidence by affidavit, but if so used shall have all the incidents and consequences of evidence by affidavit.

(2.) In case any part of the evidence is taken viva voce, the comptroller shall, in respect of requiring the attendance of witnesses and taking evidence on oath, be in the same position in all respects as an official referee of the Supreme Court.

78.—A certificate purporting to be under the hand of the comptroller as to any entry, matter, or thing which he is authorised by this Act, or any general rules made thereunder, to make or do, shall be prima facie evidence of the entry having been made, and of the contents thereof, and of the matter or thing having been done or left undone.

79.—Printed or written copies or extracts, purporting to be certified by the comptroller and sealed with the seal of the Patent Office, of or from patents, specifications, and other documents in the Patent Office, and of or from registers and other books kept there, shall be admitted in evidence in all courts in His Majesty's dominions, and in all proceedings, without further proof or production of the originals.

80.—(1.) Copies of all specifications, drawings, and amendments left at the Patent Office after the commencement of this Act, printed for and sealed with the seal of the Patent Office, shall be transmitted to the Edinburgh Museum of Science and Art, and to the Enrolments Office of the Chancery Division in Ireland, and to the Rolls Office in the Isle of Man, within twenty-one days after they have been accepted or allowed at the Patent Office.

(2.) Certified copies of or extracts from any such documents and of any documents so transmitted in pursuance of any enactment repealed by this Act, shall be given to any person on payment of the prescribed fee; and any such copy or extract shall be admitted in evidence in all courts in Scotland and Ireland and in the Isle of Man without further proof or production of the originals.

81.—Any application, notice, or other document authorised or required to be left, made, or given at the Patent Office or to the comptroller, or to any other person under this Act, may be sent by post.

82.—Where the last day fixed by this Act for doing anything under this Act falls on any day specified in rules under this Act as an excluded day, the rules may provide for the thing being done on the next following day not being an excluded day.

83.—(1.) If any person is, by reason of infancy, lunacy, or other disability, incapable of making any declaration or doing anything required or permitted by or under this Act, the guardian or committee (if any) of the person subject to the disability, or, if there be none, any person appointed by any court possessing jurisdiction in respect of his property, may make such declaration or a declaration as nearly corresponding thereto as circumstances permit, and do such thing in the name and on behalf of the person subject to the disability.

(2.) An appointment may be made by the court for the purposes of this section upon the petition of any person acting on behalf of the person subject to the disability or of any other person interested in the making of the declaration or the doing of the thing.

Register of Patent Agents.

84.—(1.) A person shall not be entitled to describe himself as a patent agent, whether by advertisement, by description on his place of business, by any document issued by him, or otherwise, unless he is registered as a patent agent in pursuance of this Act or an Act repealed by this Act.

(2.) Every person who proves to the satisfaction of the Board of Trade that prior to the twenty-fourth day of December, one thousand eight hundred and eighty-eight, he had been bona fide practising as a patent agent shall be entitled to be registered as a patent agent in pursuance of this Act.

(3.) If any person knowingly describes himself as a patent agent in contravention of this section he shall be liable on conviction under the Summary Jurisdiction Acts to a fine not exceeding twenty pounds.

(4.) In this section "patent agent" means exclusively an agent for obtaining patents in the United Kingdom.

(*To be continued.*)

THE LATE MR. SAMUEL HALL.

As briefly recorded in our last issue, Mr. Samuel Hall, F.I.C., F.C.S., treasurer of the Society of Chemical Industry, and chairman of the board of directors of Messrs. Edward Cook and Co., Ltd., Bow, E., died on the 9th inst. In an appreciation of the deceased gentleman, the *Chemist and Druggist* says:—"In the circles of chemical industry Mr. Hall was one of the most beloved of men, and his death breaks many friendships—international as well as Metropolitan and British. His was a remarkable life, and he started on his business career without any idea of becoming a chemist. He was born in Austin Friars' London, and after his elementary education at a private school in Brighton he became one of the earliest pupils of the City of London School. A few weeks ago, in conversation with him, he recalled the teaching of chemistry in the old school in Milk-street, Cheapside, when the teacher was the man who, in the case of many boys, paved the way for the more advanced instruction that Hofmann came to this country to give. Mr. Hall was fond of chemistry and science generally, but on leaving school, at fifteen (he finished at University College), he entered his father's business, which was that of Hall Brothers, hat manufacturers, Fore-street, and Frampton Cotterell. Three years later his father became blind, and the conduct of the whole business fell upon his son's shoulders. About 1870 he became a partner in the firm of Messrs. Edward Cook and Co. On entering the soap business, Mr. Hall, who had never lost grip of chemistry, studied the subject more intimately, so as to take charge of the chemical side of the business. Under his guidance this has developed steadily, and the works contain well-equipped experimental laboratories which he superintended. By his co-directors and the staff of the company Mr. Hall was regarded with deep respect, his kindliness and generous spirit being held in affectionate remembrance. He was one of the original members of the Society of Chemical Industry, and when his relative and co-partner, Mr. Edward Rider Cook, died in 1898, Mr. Hall was appointed to succeed him in the Hon. Treasurership, an office which has been associated with the Bow house since the foundation of the Society. Mr. Hall was an admirable treasurer, and spared no trouble in conserving the Society's interests in money matters, while he also attended with consistent regularity the meetings of the London Section."

Brazilian Manganese Corporation, Ltd.—Registration nas been made of the issue, on November 28, of £1,000. 6% debentures, part of series created September 30, 1907, to secure £80,000., charged on freehold manganese estate and business in the Fazenda de Campo Allegre, Minas Geraes, Brazil. No trustees. Previously issued of same series, £8,000.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Sheep Dips. W. G. Little and H. Morris. 26,608. December 2.
Filtering Apparatus. W. Lorey and J. Maiser. 26,615. December 2.
Producer Gas. L. C. Barker. 26,644. December 2.
Gum Tragasol. C. V. Greenwood. 26,751. December 3.
Extracting Tanning Materials. S. Depigny and A. Larmet. 26,770. December 4.
Saturators. W. Riley and A. Kershaw. 26,775. December 4.
Explosive. W. S. Winchester. 26,791. December 4.
Concentration of Wolfram Ores. M. Ruthenberg. 26,810. December 4.
Trisazo Dyestuffs. R. B. Ransford. 26,811. December 4.
Explosives. South African Maganite Explosives Syndicate Limited and H. C. L. Bloxam. 26,823. December 4.
Electrolytic Refining of Copper. J. Awalow. 26,829. December 4.
Artificial Fuels. R. E. Cummins. 26,830. December 4.
Filtering Apparatus. C. Cuau. 26,832. December 4.
Carbonic Acid Baths. A. Zucker. 26,849. December 4.
Synthetic Indiarubber. R. F. H. Suhr. 26,852. December 4.
Tar Distillation. T. Wilton and G. Wilton. 26,910. December 5.
Automatic Analysis and Recording of Gases. W. S. Hubbard. 26,923. December 5.
Solder for Aluminium. T. Harden and Amalgaline Limited. 26,932 December 5.
Fixing Ozone in Liquids. S. Fraser. 26,949. December 6
Maintaining Temperature of Substances. A. Stock. 26,984. December 6.
Solution and Precipitation Apparatus. W. Hommel and the Metals Extraction Corporation Limited. 27,017. December 6.
Dissolving Gases in Liquids. W. Hommel and The Metals Extraction Corporation Limited. 27,019. December 6.
Zinc from Zinc Ores and Residues W. Hommel and The Metals Extraction Corporation Limited. 27,020. December 6.
Hæmoglobin. P. Lewy. 27,113. December 6.
Aromatic Ethanolamines. Farbwerke vorm. Meister, Lucius, and Brüning. 27,117. December 6.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch, 25, Southampton Buildings, Chancery-lane, W.C.*

1906.

Hydrated Carbonate of Magnesium. Sisson. 24,134.
Metallic Silicides. Muller and Baraduc. 27,209.
Black Sulphurised Dyestuff. Chemische Fabriken vorm. Weiler-ter-Meer. 27,213.
Utilising Pyrites Cinder. Thwaites. 27,515.
Electrolytic Refining of Copper. Cowper-Coles. 27,740.
Recording Percentage of Carbon Dioxide in Gases. Ward. 28,183.

1907.

Colouring Matters containing Sulphur. Johnson. 4,592.
Sulphurised Dyestuffs. Bloxam 9,011.
New Azo Dyestuffs. Newton. 10,420.
Wurtzilite or Elaterite Treatment. Stine. 19 629.
Silicates of Magnesia. Herrenschmidt. 20,378.
Stable Hydrosulphites. Farbwerke vorm, Meister, Lucius, and Brüning. 20 580.
Fuel Gas from Mineral Carbonates. Rider. 21,078.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or relating to the Purifying of Waste Water. L. C. Girerd, M.D., and J. Drapier, both of 57, Rue d'Amsterdam, Paris. British Patent, 24,172. October 30, 1906.

This invention relates to the biological purification of waste waters, and consists (1) in distributing the waters in a divided condition and causing it to pass in an intermittent manner on to and through one or more beds or filters in free and direct contact with the air and charged with aerobian organisms, such bed or beds being disposed on a suspended hammock or hammocks formed of material allowing a relatively large circulation of air and consisting of granular and porous matters containing either peroxide of iron and magnetic oxide or baryta and manganese dioxide; (2) in apparatus for carrying out the treatment set forth above, and comprising one or more suspended completely perforated hammocks in direct contact with the air, supporting granular and porous materials constituting oxidising filters, the hammocks being surmounted by a closed tank constituting a disaggregating and a hydrolising chamber, terminating in a syphon with intermittent working, the discharge orifice or conduit of which is larger than the inlet conduit.

Improvements connected with the Manufacture of Fertilisers and other Useful Products from Animal Refuse and the like. A. J. Lehmann, 7, September Road, Liverpool. British Patent, 24,492. November 2, 1906.

The inventor claims:—(1.) The improvement connected with the manufacture of fertilisers or artificial manures or other useful products from animal refuse and the like, consisting in subjecting the fumes or vapours or gases coming from the boiling or drying, or boiling and drying chambers, in which the animal refuse or the like is being treated, to coke or the like saturated with creosote or similar substance, contained in a chamber, through or over which they are passed. (2.) In the manufacture of fertilisers or artificial manures, or other useful products from animal refuse and the like, wherein such materials are boiled and subsequently dried, conveying the fumes or vapours and gases given off from them in drying, over inclined plates or boards or the like in the upper part of the chamber in which such material is boiled, and thereby causing the fumes or vapours from the boiling to be conveyed into and mixed with the aforesaid vapours or gases coming from the drying; and delivering same together from the said boiling chamber. (3.) This apparatus or plant for manufacturing fertilisers, and other useful products from animal refuse and the like, particularly as set forth with reference to and shown in the drawing accompanying the specification.

Improvements in the Manufacture of Soap or Mixtures containing Soap The Karsam Soap Co., Limited, M. R. A. Samuel, and A. A. Lockwood, all of 12, Minories, London. British Patent, 24,822. November 5, 1906.

This invention consists in injecting a hydrocarbon oil in a finely divided or pulverised condition into a soap or a mixture containing soap, the oil during this process not being heated to such an extent that it appreciably volatilises.

A Combined Gas Producer and Ammonia or Equivalent Generator. Clarke Chapman and Co., Limited, and John Robson, both of Victoria Works, Gateshead British Patent, 342A. January 5, 1907.

This invention comprises, in a combined gas producer and ammonia generator or equivalent volatiliser having the producer within the generator and tubes in the generator for utilising the heat of exhaust gases from a gas engine, the construction wherein liquid is vaporised by elements in communication with the generator and mixed with air, the mixture being then passed below and through the generator grate, and the gas produced passing in contact with the vaporising elements, around the ammonia generator or volatiliser, and thence in contact with the conduit conducting the aforesaid mixture to the generator grate, and finally to the plant in which it has to be utilised.

Improvements in the Manufacture of Electrodes for Electrolytic Purposes. G. W. Johnson, 47, Lincolns Inn Fields, London (communicated by Chem. Fab. Griesheim Elektron, Frankfort-on-the-Maine, Germany). British Patent, 5,223. March 4, 1907.

This invention relates to the manufacture of electrodes for electrolytic purposes from molten magnetic oxide of iron or of molten ferric oxide Fe_2O_3 that has been converted into magnetic oxide Fe_3O_4. It has been found by the inventors that on melting magnetic, or other iron oxide an excess of iron protoxide is always obtained. The presence of this protoxide of iron greatly weakens the mechanical and chemical resistance of the iron oxide electrodes, which are otherwise eminently suitable for electrolytic purposes, the reason of this weakening action being that the protoxide does not crystallise uniformly with the magnetic oxide and renders the electrodes liable to crack. Besides this, it is not sufficiently resistant to chemical actions. In order to obviate this disadvantage, the inventors add to the melt in the melting vessel, finely pulverised ferric oxide Fe_2O_3, which combines with the protoxide present and forms magnetic iron oxide. The amount of pulverised iron oxide must be at least sufficient to convert the whole of the existing protoxide into magnetic iron oxide, but an excess is not objectionable, because it dissolves in the melt in a uniform manner and crystallises homogeneously. In lieu of iron oxide, other oxides which combine with iron protoxide, such, for instance, as

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chromium sesquioxide, or manganese sesquioxide may be used. The homogeneous crystallising melt thus produced is poured into moulds closed at the bottom, which may be of the usual kind; the mass solidifies gradually from the outside towards the inside, so that a rigid layer is first formed at the exterior, and this layer increases gradually in thickness towards the centre. When this layer has become thick enough, the remainder of the fluid contents of the mould is returned to the melting vessel to be used for a new charge. The mould is then opened and the electrode, closed at its lower end, is removed and allowed to cool slowly. The cooled electrode is then, for the purpose of increasing its conductivity, provided on its inside with a coating or lining of metal, which may be applied by electro-deposition or otherwise, or a bar or other core, of good conducting metal, such, for instance, as copper, nickel or the like, may be introduced into the molten mass poured in the mould before solidification takes place, the bar or core forming one piece with the electrode when it solidifies.

Improvements in Electric Furnaces. H. Pauling, 81, Wilhelmstrasse, Gelsenkirchen IV., Westphalia. British Patent, 18,901. August 22, 1907.

The inventor claims:—(1.) In an apparatus for producing voltaic strong-current arcs, in combination, a magnet, one pole of which forms a receptacle open at one end, such receptacle enclosing the other pole of the said magnet with a clear space between them, and a pair of curved electrodes arranged within this space so that the second said pole is embraced by either of them, such electrodes diverging towards the open end of the first said pole. (2.) In an apparatus as defined in the preceding claim, the provision of means for blowing a current of gas through the space between the electrodes and in the direction of divergence thereof. (3.) An apparatus as defined in Claim (2) characterised by the feature that the said means for blowing a current of gas through the space between the electrodes is constituted by a pair of nose pipes, extending through the closed end of the first said pole, and lying on opposite sides of the second said pole.

Legal Intelligence.

HIGH COURT OF JUSTICE.

KING'S BENCH DIVISION.

(Before Mr. Justice Lawrence and a Special Jury.)

BRADFORD DYERS' ASSOCIATION *v.* HALL AND OTHERS.

On the 12th inst. this case came before Mr. Justice Lawrence and a special jury. It was an action brought by the plaintiffs for damages for alleged infraction of a covenant not to be engaged or concerned or interested in any business of a similar character to that which Mr. H. H. Hall sold to the plaintiffs within a certain distance of Bradford. The Association were represented by Mr. Rufus Isaacs, K.C., Mr. Eldon Bankes, K.C., and Mr. Norman Craig, and the defendants by Sir Edward Carson, K.C., and Mr. Holman Gregory.

A consultation between counsel and solicitors was held after the Judge took his seat on the bench, after which Mr. Rufus Isaacs said he was very much obliged to the Judge for the indulgence given. The result of it was that both time and expense would be saved. It was not necessary now that he should go into the details of the case. The plaintiffs had naturally been anxious to establish their position with regard to this matter and had been compelled to bring the action. Sir Edward Carson, who represented the defendants, had now agreed to judgment being entered for the plaintiffs for £1,000. damages, with costs of the action. These terms would be endorsed on the briefs, and therefore it would be unnecessary to trouble the Judge and the jury with the case.

Sir Edward Carson said it was quite true that the action was brought on a covenant by which one of the defendants agreed not to carry on a certain business, but he thought he ought to say that the term mentioned in the covenant had now expired, so that the only question which would have had to be tried in the case, had it gone on, would have been as to the damages incurred up to a certain time. He wanted to make that quite clear, as otherwise there might get an idea abroad that this gentleman was persisting in breaking a covenant which he had undertaken.

Mr. Isaacs: Oh, no. The covenant came to an end, I think, about the end of 1906. Your Lordship will enter judgment for the plaintiffs by consent, with £1,000. damages and costs of the action.

The Judge assented, and judgment was entered accordingly.

CHANCERY DIVISION.

(Before Mr. Justice Warrington.)

THE BRITISH LIQUID AIR CO. *v.* THE BRITISH OXYGEN CO.

In giving judgment in this case on the 3rd inst., His Lordship said:—The defendants had manufactured in Great Britain oxygen by a process protected by letters patent granted in 1895 and 1902, and the plaintiffs were proposing to manufacture oxygen in this country under a process covered by letters patent dated 1903 and 1905. The defendants alleged that the plaintiffs' process of manufacture would be an infringement of their patent of 1902, and they had, as they admitted, by advertisement, threatened the plaintiffs with the consequences of their proposed manufacture. The action was brought, therefore, to restrain such threats, and it involved the validity of the defendants' patents and of their alleged infringement by the plaintiffs. The position in that respect had been made quite clear by an agreement between the parties to deal with the matter as if the defendants had counterclaimed for an injunction to restrain the infringement of their patent by the plaintiffs. The issues with which he had to deal were precisely those raised in a patent action where validity was at issue as well as infringement. What was the true meaning of defendants' specification? The defect in the 1895 process, as used for producing oxygen commercially, was that the process was wholly evaporation. The purer the oxygen was, the smaller was the quantity got, and as pure oxygen was a very valuable commodity this was a serious defect. The patent of 1902 was to remedy that defect. He was of opinion that the true construction of that specification was that it was a claim for continuation. It was a claim for a rectifying column, but for a rectifying column in combination with other agents. The claim, therefore, must be construed as a narrow claim. So construed it was unnecessary to consider the various alleged anticipations which had been relied upon. If he had been able to give a wider construction to that specification, and to hold that it might either be a claim to the principle of rectification or a claim to the principle of rectification as applied generally to this particular subject-matter, he thought then he should have been bound to find that a wide claim of that nature would have been defeated by some of those matters which had been relied upon in anticipation—and particularly by the Canadian claim of Le Sueur. That brought him to the question whether the patent so construed would be infringed by the proposed manufacture by the plaintiffs. It was idle to say that the rectifying column in the plaintiffs' patent was the same or performed the same functions as the rectifying column in Lindé's. Though some parts of the plaintiffs' patent might be the same as Lindé, he must come to the conclusion that, as a whole, the plaintiffs' patent was not an infringement. The result, therefore, was that the plaintiffs were entitled to the injunction for which they asked.

Plaintiffs were awarded the costs of the action.

Correspondence.

*** *We do not hold ourselves responsible for the opinions expressed by our correspondents.*

ALUMINIUM SHAVINGS.

(To the Editor of the Chemical Trade Journal.)

SIR,—We have heard that aluminium shavings are used for chemical trade purposes, and we should be obliged if you or any of your readers can tell us in what form they are used, and for what purpose. Under separate cover we send you a sample of zinc shavings, and understand that the aluminium is used after this form or in finer threads.—Yours, etc.,

ALUMINIUM.

FORWOOD MANGANESE CO., LTD.—Registration has been made of £25,000. 6% second debentures, created November 25, 1907, registered. Property charged: The company's undertaking and property, present and future, including uncalled capital. No trustees.

ELECTROLYTIC ALKALI CO., LTD.—Registration has been made of the issue on November 14 of £200. and on November 25 of £500. debentures, part of series created on July 9, 1904, to secure £50,000., charged on the company's undertaking and property, including uncalled capital. Previously issued of same series, £33,100.

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Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Wednesday, Dec. 18.
120,000	1	1	Bell's Asbestos ... ord	1 13/16 1 15/16
	Stock	100	Borax Consol 4½% deb. stock red	107½
80,000	10	10	Do. 5½% cum. pref.	10⅜
1,356,477	1	1	Bradford Dyers ... ord.	23/3
1,500,000	1	1	Do. ... 5% c.p.	20/9 21/-
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1	1	British Oil & Cake Mills ord.	12/6 13/-
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	38/-
10,000	10	10	Do. ... 6% c.p.	11 15/16
1,962,870	1	1	Brunner, Mond and Co. ord.	5 5 1/16
82,678	10	10	Do. 7% pref	16¼ 16½
96,000	5	5	Bryant and May ... c.p.	12¼ 12⅜
40.000	10	10	Buxton Lime Firms ord.	5¾ 6¼
352,500	5/-	5/-	Cassel Cyanide Co., Ltd. ,,	22/
450,000	1	1	Castner Kellner ... ,,	25/9 26/-
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p.	3¼ 4
6,000	6	3	Cleveland Salt ... 6% m.p.	2⅜ 2⅞
20,000	10	10	Crosfield J., and Sons c.p	9⅞ 10
85,000	1	1	Fletcher, Russell, & Co. ord	27/6 28/6
5,000	10	10	Do. 6% c.p.	11¾ 12
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94½ 95½
50,000	10	10	India Rubber Co. ... ,,	16
	5	5	Lagunas Nitrate ... ,,	2⅞ 3⅛
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	11 11½
200,000	10	10	Lever Bros. ... 5% c.p.	10⅞ 11⅛
400,000	10	10	Manchester Ship Canal ord.	20/6 21/-
400,000	10	10	Do. per 5% pref.	31/- 32/-
120,000	1	1	Mandelberg J. & Co. ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	8½ 9
228,540	10	10	Nobel Dynamite Trust ,,	15 3/32
	10	10	Do. share warrants	15 3/32
200,000	1	17/-	Oakbank Oil, Ltd. ... ord.	30/-
	1		Pears, A. and F. ... ,,	30/-
70,000	10	10	Pease and Partners ... ,,	11¼ 11¾
37,500	16	16	Price's Patent Candle ,,	33½
130,000	1	17/-	Pumpherston Oil, Ltd. ,,	13¼
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	65 65½
2,500	7½	7½	Robin and Houston ... 5% c.p	76/6
196,962	1	14/3	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	19/3
100,000	6	6	Do. ... 7% n.c.p.	4 11/16 4 13/16
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	5/8 3/4
	1	1	Schibaieff Petroleum ,,	5/32 7/32
£6,250,000	Stock	100	South Metropolitan Gas ,,	119 121
45,000	10	10	Steiner, F. and Co. 5% c.p.	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6½
289,343	10	10	United Alkali ... ord.	75/9
282,524	10	10	Do. ... 7% pref.	11 11/32
80,000	1	1	United Indigo & Chemical ord	3/-
66,665	5	5	Willans and Robinson ,,	1 5/16 1 5/16
210,000	1	1	Woolc mbers ... 7% c.p.	19/- 19 6
113,202	4	4	Young's Paraffin ... ord.	68/-

PATENT CARAMEL CO., LTD.—Capital £800., in £1. shares. This company has been formed to acquire the business carried on by J. W. Jarvis and C. H. K. Gonville, at Stratford, and to carry on the business of manufacturers of caramel and brewers' sundries, etc No initial public issue. Registered without articles of association. Registered office, Oxford Works, Oxford Road, Stratford, E.

GRAPPENHALL TANNING CO., LTD.—Capital £25,000., in £10. shares. This company has been formed to acquire the business lately carried on at Knutsford Road Tannery, Grappenhall, Cheshire, as Alfred Dakin and Co., and to carry on the business of tanners, skinners, curriers, leather dressers, hide and skin merchants, etc. No initial public issue. The subscribers are to appoint the first directors. Qualification, 50 ordinary shares.

NEW YORK PRICES CURRENT.

DEC. 3, 1907.

PREPARED FOR THIS JOURNAL BY MESSRS. STANLEY JORDAN AND CO., 100, WILLIAM-STREET, NEW YORK.

(The values are at ship's side, usual ports, unless otherwise stated.)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 50
,, Carbolic (crude, 60%)	per gallon	0 43
,, ,, (crystallised, 40°)	per lb.	0 13
,, ,, (liquid, 95-97%)	per gallon	0 32
,, Oxalic	per lb.	0 6⅜
,, Picric	,,	0 22
,, Tartaric	,,	0 27½
Arsenic, white powdered, English	,,	0 6½
,, ,, ,, Continental	,,	0 6½
Ammonia, Carbonate, lump	,,	0 7½
,, Muriate, grey	,,	0 6
,, ,, white electrical	,,	0 6
,, Sal-ammoniac, white seconds ..	,,	0 9¼
,, Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9¼
Bleaching Powder, 35%, English	per 100 lbs.	1 30
,, ,, ,, Continental	,,	1 30
,, ,, ,, American	,,	1 25
Calcium Chloride	,,	0 60
China Clay, English	per ton	11 0
,, ,, American	,,	8 0
Copper Sulphate	per lb.	0 5½
Potassium, Bichromate	,,	0 8½
,, Carbonate, 90%	,,	0 4¾
,, Chlorate	,,	0 9
,, Cyanide	,,	0 18
,, Hydrate (caustic potash), 75-80%	,,	0 4¾
,, Permanganate	,,	0 9½
,, Prussiate Yellow	,,	0 15½
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
,, Soda Crystals, f.o.r. works	,,	0 60
,, Bichromate	per lb.	0 7½
,, Chlorate	,,	0 8¾
,, Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
,, Hyposulphite	,,	1 35
,, Nitrate	,,	2 50
,, Phosphate	,,	1 95
,, Prussiate	per lb.	0 9½
Sulphur, Brimstone (best thirds)	per ton	20 0

Market Reports

THE AMERICAN CHEMICAL MARKET.

(Rate of Exchange, $4.86½ = £1.)

NEW YORK, DECEMBER 3, 1907.

Nitrate of soda is offered at $2.35. for spot, and $2.37½. for shipments. Sulphate of ammonia ranges from $3.05. to $3.10. per 100 lbs. Grey muriate, for galvanising, is 5½c. to 6c. per lb., as to make, and white muriate is about the same. Lump sal ammoniac is 9½c. per lb. Carbonate of ammonia, lump, is steady at 7⅞c. to 8c. per lb. Bleaching powders are dull, and in rather plentiful supply at $1.15. to $1.25. per 100 lbs. Alkali is 90c. per 100lbs., f.o.r. makers' works, for light 58% in bags, and caustic, 74%, is $2.05. per 100 lbs. same conditions. Sulphate of copper is 5½c. per lb., for outside makes, although the Syndicate holds firm at 5½c. per lb. White powdered arsenic is very dull, and the price is purely nominal at 6½c. per lb. Red Saxony arsenic is steady, although slow, at 7½c. per lb. Carbonate of potash, 80-85% calcined, is 3⅞c. per lb.; hydrated, same test, is 4⅜c. Prussiate of soda and potash are respectively 9½c. and 15½c. per lb., with business slack. Chlorates are unchanged under Syndicate control, at 8½c. and 8¾c. per lb. for soda and potash, f.o.r. makers' works. Bichromate of potash is 8½c. per lb., and soda is weak at 7c. to 7½c. per lb. Phosphate of soda is dull, at $1.85. per 100 lbs. Oxalic acid is very weak, and is quoted at 6¾c. to 7c. per lb. for prompt shipment, while next year's delivery is nominally 7½c. per lb. During the past week the market has felt the full effect of the financial stringency, and business is almost at a standstill; monetary conditions, however, show a decided improvement.

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THE RUSSIAN CHEMICAL MARKETS.

Advices from Riga, dated December 6, state that there has been a rather severe fall in the cost of sulphate of copper, resulting from the lower prices ruling for the metal. Citric acid, in sympathy with the movement of this product abroad, has risen in price. The following are the quotations ruling :—Nitric acid, 36° B., 3 roubles, 20-60 copecks; borax crystals, 4r. 45c. to 4r. 70c.; white lead, 4r. 80c. to 5r. 20c.; zinc white, 5r. 50c. to 6r.; sulphate of alumina, 70c. to 80c.; chloride of lime, 1r. 60-80c.; red prussiate of potash, 30r. to 32r.; yellow ditto, 13r. 25c. to 14r.; alum, 1r. 10-20c.; sulphate of copper, 6r. to 6r. 75c.; sal ammoniac, 7r. 80c. to 8r. 30c.; potash (Saratoff), 2r. 65c. to 3r.; Caucasian ditto, 2r. 90c. to 3r. 20c.; Chile saltpetre, 2r. to 2r. 10c.; Russian turpentine, 3r. to 3r. 30c.; ammonia-soda, 1r. 30r. to 50c.; caustic soda, 2r. 60c. to 2r. 75c.; muriatic acid, 45c. to 80c.; Berthellot salts, 9r. 60c. to 10r. 20c.; tartaric acid, 25r. to 26r.; citric acid, 54r. to 56r.; superphosphates, 13-14%, 52r. to 56r.; red lead, 4r. 60c. to 4r. 80c.; lump sulphur, 95c. to 1r. 10c.; sulphuric acid, 66° B., 80c. to 95c.; acetic acid, 80%, 7r. 30c. to 7r. 50c.; 60%, 4r. 50c. to 5r.; bichromate of potash, 8r. 50c. to 8r. 75c.; bichromate of soda, 7r. 50c. to 7r. 75c.; ether (0.725), 8r. 50c. to 9r. 50c.—all per pood of 36 lbs.

The Odessa chemical market report for December 7 states that the tone is flat, but with little movement in prices. Ammonia, in casks, is quoted 7 roubles, 10 copecks; white lead, 6r. 10c. to 6r. 25c.; water-glass, 65°, 1r. 25c. to 1r. 30c.; glycerine, 11r. 75c. to 12r. 25c.; wood spirit, 96°, 7r. 40c. to 7r. 60c.; chloride of lime, 1r. 95c. to 2r.; yellow prussiate of potash, 14r. 50c. to 15r.; sal ammoniac, 8r. 20c. to 8r. 40c.; Caucasian potash, 2r. 45c.; Chile saltpetre, in sacks, 2r. 10c. to 2r. 15c.; caustic soda, 2r. 80c. to 2r. 85c.; calcined soda, 56-58°, 1r. 35c. to 1r. 40c.; muriatic acid (technical), 1r. 5c.; citric acid, 41r.; tartaric acid (Odessa make), 23r. 50c. to 24r.; Russian turpentine, 3r. 25c.; refined sulphur, 1r. 30c. to 1r. 35c.; sulphuric acid, 66°, 1r. 25c.; acetic acid (80%), 8r. 25c. to 8r. 55c.; bichromate of potash, 8r. 75c. to 9r.; ether, 8r. 25c.; to 8r. 50c.; sulphate of copper, spot, 6r. 25c. to 6r. 40c.; and January-February delivery, 5r. 75c.—all per pood of 36 lbs.

TAR AND AMMONIA PRODUCTS.

Thursday.

Benzols: quotations given at 8¼d. to 8¾d. for 90's, and 8¼d. to 8½d. for 50-90's, casks included. Crude tar, 13s. 6d. to 17s. 6d. per ton, Thames; 1½d. to 1¾d. per gallon, delivered. Refined tar, 12s. per barrel; Gas Company, 12s. 6d. Pitch, 22s. to 22s. 6d., f.o.b.; Gas Company, 24s. 6d.; East Coast, 21s. to 21s. 6d.; West Coast, 20s. 6d. to 21s., f.a.s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 9d. to 9½d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50%, 1s. 4d. to 1s. 5d.; 60%, 1s. 7d. to 1s. 7½d.; Crystals, 39-40, 4¾d. to 5d.; 34-35, 4½d. to 4¾d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45%A, 1½d. to 1¾d., cask included. Pyridin, 3s. 3d. to 3s. 6d.

Sulphate of ammonia quiet. Nearest values are :—Beckton, spot and forward, £12. 2s. 6d. to £12. 5s.; Beckton terms, £11. 15s. to £11. 16s. 3d.; London, £11. 13s. 9d. to £11. 15s.; Hull, £11. 15s. to £11. 16s. 3d.; Liverpool, £11. 17s. 6d.; Manchester, £11. 15s.; Leith, £12. 2s. 6d. to £12. 3s. 9d.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 6d.; Liverpool, ordinary, 11s. 1½d., and refined, 11s. 3d.

THE LONDON METAL MARKETS.

Wednesday.

Copper: Standard brands, £57. 15s. to £58. cash, and £59. 5s. to £59. 10s. for three months. Tin: G.M. quality, £116. 10s. to £117. cash, and £118. 10s. to £119. three months; English, £120.; Banca, fl.71½. Lead: Soft foreign, prompt, £14.; January, £14. 2s. 6d.; February-March, £14. 5s.; English, or £14. 10s. Spelter: Ordinary brands, December, £20. 2s. 6d.; January, £19. 10s.; and February-March, £19. 7s. 6d., ex ship; hard, nominal, f.o.b. Antimony, £32. to £34.; crude, £22.; ore, £8. 10s. to £9. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £100. Wolfram, nominal, 25s. Pig-iron closing prices: Cleveland, 49s. 3d. cash; 48s. 4½d. one month; 47s. 6d. three months.

FERTILISER MATERIALS.

Thursday.

Quietness still prevails in all departments, there being no disposition on the part of manure manufacturers at present to buy further material.

Nitrate of soda is quiet, at 11s. 1½d. per cwt., for 95%, and 11s. 3d. per cwt. for refined quality.

East Indian bone meal, for shipment, is neglected, shippers demanding £5. per ton nett, c.i.f. terms, Liverpool, and from store, £5. 5s. to £5. 10s. per ton is required.

There is no change to report in mineral phosphates.

MISCELLANEOUS CHEMICAL MARKET.

Thursday.

There is no material change in the position of the markets, and business upon the whole is of a steady and uneventful kind. In the alkali trade there is a fair amount of inquiry, and some business is in progress for 1908 delivery; but there is somewhat of an inclination on the part of consumers to fix up their contracts for forward supplies. Values on the whole are very firm: sulphate of copper is rather in better request and firmer in price, at £22. 5s. to £22. 10s., f.o.b. for January and early spring delivery. Caustic soda and alkali, 58%, are without change. Bleaching powder is in fair request, and price £4. 5s. to £4. 7s. 6d., f.o.b. Saltcake is firm, at 42s. 6d. per ton, in bulk. For vitriol and muriatic acid the higher prices are being paid for 1908 delivery. Acetates and acetic acids are without change, and there is no indication of any further decline in values. Prussiates are steady at former quotations. Bichromates are somewhat unsteady, and tending towards lower prices. Arsenic is in very fair demand, at £26. to £27. for best Cornish makes, and £25. to £26. for other descriptions.

LIVERPOOL OIL MARKET.

Wednesday.

Palm oil dull, with small sales of Benin for Dec.-Jan. delivery at £27. 2s. 6d. and £27. 5s. on spot, and Lagos at £27. 15s. per ton, on spot, all in transit. Linseed oil steady, with quotations given at 23s. 6d. to 24s. per cwt., for Liverpool makes in export casks, according to quality, but little business is passing. Cottonseed oil in fair demand at 24s. to 25s. for Liverpool refined in export barrels. Tallow quiet. Turpentine quietly steady, at 35s. per cwt. for spot parcels. Petroleum: A fair business is being transacted in refined oils, with values given at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady at 1s. 0½d. to 1s. 3d. per gallon, according to grade, for American.

LIVERPOOL DRYSALTERIES.

Wednesday.

Montreal potashes quoted 36s. 9d. to 37s. per cwt., but in small demand. Pearl ash nominal. Logwood steady, but with moderate inquiry experienced. Fustic dull. Cutch in moderate demand, but holders remain steady. Gambier very quiet, with quay parcels offered at 20s, store parcels 20s. 6d., November-December shipment 19s. 3d., December-January 18s. and January-March, 17s. 9d. per cwt., with little doing. Cubes: Small sales are passing in the recent arrivals at 28s., ex quay, for No. 1 quality; store parcels are quoted at 28s. 6d. to 29s. according to quantity, with November-December shipment at 27s. 6d., and December-January shipment at 27s. 3d. per cwt. Gum Arabic quiet, with little business reported. Castor oil steady; values given at 3¾d. for first pressure French, 3½d. for second pressure French, 3 7/16d. for first pressure Belgian, and 3 5/16d. per lb. for good seconds Calcutta, ex quay and in store; Calcutta, December to May shipment, quoted at 3⅜d. per lb., but no sales are reported. Shellac quiet, and little business is passing. Quotations are given at 117s. for March delivery fair T.N. orange, and 118s. for May; for arrival, January-March, 116s., c.i.f.; spot quotation for fair free T.N. orange, 120s. Glucose steady: American liquid, 43%, on spot, 11s. 9d.; January-March delivery, 11s. 3d.; for January-March shipment, 9s., c.i.f.; Union Jack crystal, January-March delivery, 11s. 3d., ex works, London; chips, 80%, for shipment, 9s., and 70%, 9s., c.i.f. American powdered starch, 11s. on spot, and

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10s. 6d., c.i.f., for shipment; pearl, 10s. 7½d., on spot, and 10s., c.i.f., for shipment. Cream of tartar, 98% foreign powder, 87s.; 95%, 85s. Tartaric acid: English, 11½d. on spot, and foreign, 11d. Citric acid: English, 1s. 8d.; foreign, 1s. 8d.

HULL PAINT, OIL, AND COLOUR REPORT.

WEDNESDAY.

OILS.—Markets during the week have been slack and continue so, having lost value from 5s. to 10s. per ton on the week, both for linseed and cottonseed oils. Demand generally is quiet in anticipation of holidays. Amongst the principal imports here to date, as against a year ago, are:—Wheat, 3,997,930 qrs., against 3,751,621 qrs.; flour, 207,331 cwts., against 344,210 cwts.; linseed, 794,833 qrs., against 549,915 qrs.; cottonseed, Egyptian, 185,226 tons, against 163,690 tons, other kinds 152,643 tons, against 113,643 tons; oilcake, 26,015 tons, against 41,671 tons; rapeseed, 102,369 qrs., against 127,486 qrs.; olive oil, 3,819 tuns, against 3,632 tuns; hemp, 132,487 cwts., against 156,847 cwts.; tar, 14,909 barrels against 13,541 barrels. Amongst the weekly imports:—Butter 8,193 cwts.; lard, 373 cwts.; margarine, 2,098 cwts.; sugar, 33,409 cwts.; hides, 1,375 cwts.; pig-iron, 952 tons; oilcake, 1,329 tons; colours, 1,814 packages; wool, 346,017 lbs.; hemp, 3,301 cwts. Exports:—Oil, 10,121 cwts.; colours, 2,941 packages; chemicals, 2,419 packages. Refined cotton oil quiet, 20s. 6d. naked, January-April 21s. 1½d. May-August 22s.; barrels £1. 10s., and casks £1. per ton extra. Exports during the week have been:—76 tons Belgium, 89 France, 82 Germany, 104 Holland, 1 Norway, 12 Sweden; total, 364 tons. Linseed oil, naked, spot 21s. 7½d., January-April 20s. 6d., May-August 19s. 6d.; boiled and refined, £1. to £1. 10s. per ton extra. Exports during the week have been:—7 tons France, 2 Germany, 2 Holland, 7 Norway; total, 18 tons. Cottonseed lower, spot and afloat, £6. 8s. 9d. accepted; January £6. 12s. 6d., £6. 11s. 3d accepted, and further buyers thereat; February-March sold at £6. 17s. 6d., Bombay; December-January, £5. 12s. 6d. buyers. Linseed, La Plata, spot, 43s. 9d.; December, 40s 6d.; December-January, sold at 39s.; January-February sold 38s. 9d. down to 38s. 6d.; February-March, 38s. 6d.; March-April, 38s. 6d., sellers. Turpentine lower, American 34s. 6d.; January-April, 35s. 6d.; May-June, 35s. 9d.; Russian, 18s. Rosins from 9s. 6d. upwards. Olive oil, £41. to £42. per tun. Rape oil, Ravison, December-January, 32s. 6d. Castor oil, prompt, for first pressings, 30s. 3d.; January-June, 29s. 6d.; July-December, 29s. 5d.; seconds, £1. per ton lower. Cod oil, £16. to £19. per ton.

TYNE CHEMICAL REPORT.

WEDNESDAY.

Market unchanged. Soda crystals in quiet demand, at £2. 17s. 6d. to £3. 2s. 6d. per ton, gross weights, for prompt. Caustic soda in good request, at £10. 5s. for 70%, and £11. per ton for 76-77%. Bleaching powder scarce and firm, at £5. to £5. 5s. per ton. Sulphur steady at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £7. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—Market generally is easier, though for prompt a steady business is passing. Lower prices are anticipated for forward delivery. To-day's quotations:—Best Northumbrian steam, 14s. to 15s. per ton; second qualities, 13s. to 14s. per ton; small steam coals, 7s. 6d. to 8s. per ton; best gas coals, 14s. 6d. to 15s. per ton; Durham bunkers, 12s. 6d. to 13s. 3d. per ton coking small coals, 12s. to 12s. 6d. per ton; household coals, 16s. to 17s. per ton; foundry coke, 18s. to 20s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, THURSDAY.

There is considerable movement in sulphate of ammonia in the way of deliveries under contracts, but new spot business makes a very poor show, while new forward dealing is non-existent for the time. The price for spot f.o.b. Leith is about £12., but there is nothing like life either in buying or selling, and the measure of new prompt business is small. In the ordinary heavy chemicals the movement has been fairly good, at about recent values, but things will now quieten down and remain so till over the New Year holiday stoppage. In the mineral oil and paraffin section the main feature is the heavy and increasing delivery of burning oil ex contracts, accompanied by some new spot business at the farthing a gallon advance. Lubricants and solid paraffins all firm.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks, £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¾d. to 3d., naked, f.a.s. Glasgow; nitrate of soda 11s. 3d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¾d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 7d.; ordinary sorts, 6¾d. and 6½d. (for new spot business), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £22., less 5% Liverpool, prompt.

New Companies.

Anglo-Sumatra Rubber Co., Ltd.—Capital £90,000., in £1. shares. This company has been formed to purchase the leases or land concessions of the estates and properties known as Greaham and Bander Maria, in Serdang, East Coast of Sumatra, together with the coffee and rubber enterprises now carried on there, and to carry on the business of planting and cultivating rubber, guttapercha, coffee, and crops of any description. The first directors are W. Thorburn, J. Cargill, C. Meikle, H. Boyd, F. C. Bishop, and A. Gray Muir. Qualification, 250 shares. Remuneration, £350. per annum, divided.

Caledonian Petroleum Syndicate, Ltd.—Capital £40,000., in £1. shares. This company has been formed to acquire and work bituminous, oil and other properties, etc. J. Sinclair is one of the first directors. Qualification, 200 shares. Remuneration, £30. each per annum. Registered office, 173, St. Vincent-street, Glasgow.

Franco-Belgian Cotton Fibre Syndicate, Ltd.—Capital £7,750., in 5,000 ordinary shares of £1. each and 55,000 deferred shares of 1s. each. This company has been formed to carry on the business of obtaining fibre and husks from decorticated cotton seed hulls or otherwise, of spinning, manufacturing, preparing, dyeing, or dealing in cotton or other fibrous substances, of selling cotton fibre, husks, yarn and manufactured fibrous products, etc., and to erect, lease, or otherwise acquire any mills, works and machinery in France, Belgium, or elsewhere, etc. No initial public issue. The first directors are J. R. Fox, E. C. de Segundo, P. H. Minck, and J. W. Jenkins (all permanent); no qualification required for first directors; others 100 shares (class not specified); remuneration (except managing director) £100 each per annum. Registered office, Dashwood House, New Broad-street, E.C.

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IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 5.

Acetic Acid—
Norway, 19 cks. Weber, Smith & Hoare
Belgium, 50 Leach & Co.
Holland, 37 Muller & Co.
,, 43 blns. Greeff & Co.

Albumen—
Germany, £30 L. & I. D. Jt. Co.

Alcohol (Methylic)—
Canada, A., 7,800 gals. F. A. Tye

Alum—
Belgium, 50 bgs. Gilbert & Co.
Germany, 3 cks. Petri Bros.
,, 1 Hernu, Peron & Co.
Holland, 1 ,,

Alumina Sulphate—
Holland, £620 Ohlenschlager Bros.
,, 133 Tennant & Sons

Ammonium Oxalate—
Germany, £52 T. H. Lee

Antimony Ore—
Queensland, 9 t. Brandeis, Goldschmidt & Co.

Antimony Oxide—
France, £154 Typke & King

Antimony Sulphide—
France, £150 Johnson, Sons & Co.

Arsenic—
Portugal, £283 Lawes Chem. Co.

Barytes—
Germany, 100 bgs. W. Harrison & Co.
,, 170 cks. Elkan & Co.
Holland, 204 Felton & Crepin
Germany, 100 ,,
Holland, 100 Taylor Bros.
,, 25 Lyon & Co.
Germany, 88 Harrison & Co.
,, 200 ,,
Belgium, 159 Felton & Crepin
,, 18 50 Taylor Bros.
Holland, 100 ,,

Basic Slag—
Belgium, £256 Anglo-Cont. G. Works
,, 160 t. Lawes Chem. Co.
,, 55 Bustall & Co.

Bauxite Ore—
France, 30 t. G. S. N. Co.

Bleaching Powder—
France, 25 t. N. & R. Collyer
Germany, 5 Steel & Co.

Bone Meal—
E. Indies, 181 t. Hunter, Lomer & Co.

Calcium Carbide—
Sweden, 4 t. M. Dk. Co.

Camphor—
Germany, 100 cs. R. Warner & Co.
,, 25 Slann & Davies
,, 100 L. & I. D. Jt. Co.

Caoutchouc—
Germany, 3 c. L. & I. D. Jt. Co.
Straits, 4 t. 6 ,,
,, 4 7 S. Figgis
,, 1 10 Lewis & Peat
,, 5 7 Props. Bul Wf.
Ceylon, 8 L. & I. D. Jt. Co.
E. Indies, 1 4 Prop. Hay's Wf.
France, 1 12 L. & I. D. Jt. Co.
,, 1 18 Clarke & Smith

Caoutchouc—
Straits, 6 t. 8 c. Prop. Hay's Wf.
,, 9 L. & I. D. Jt. Co.
,, 11 12 E. Boustead & Co.
,, 3 4 Shand, Haldane & Co.
Holland, 7 Props. Bull Wf.
Ceylon, 2 2 L. & I. D. Jt. Co.
,, 11 Rowe, White & Co.
,, 9 Prop. Hay's Wf.
,, 2 Smith & Son
,, 3 Craven & Co.
Straits, 1 11 Weber, Smith & Hoare
,, 1 4 Litchfield & Soundy
Belgium, 9 Major & Field
Straits, 2 5 Prop. Hay's Wf.
Ceylon, 6 Shand, Haldane & Co.
Egypt, 3 Lawrence, Boustead & Co.
France, 4 Procher Bros.
,, 6 7 Figgis & Co.
Straits, 5 2 Jewesbury & Co.
Ceylon, 4 Lawrence, Boustead & Co.
E. Indies, 4 Props. Bull Wf.
Ceylon, 4 Rowe, White & Co.
,, 8 Bremner & Laycock
U.S.A., 15 Props. Bull Wf.
,, 1 18 Lewis & Peat

Carbolic Acid—
Holland, 25 cks. J. Owen

Castor Oil—
France, 3 brls. Wright, Kerr & Co.
,, 25 cs. L. & I. D. Jt. Co.
,, 10 R. Warner & Co.
,, 25 cks. ,,
,, 30 ,, Allen & Hanbury's
Belgium, 6 J. & E. Ayrst
Italy, 10 Lennon, Ld.

Caustic Potash—
France, 28 dms. Barber & Co.
Belgium, 6 Luke & Bailey
Germany, 17 Petri Bros.
,, 48 Steel & Co.

Chemicals (*otherwise undescribed*)
Germany, £167 T. H. Lee
,, 46 L. & I. D. Jt. Co.
Holland, 252 t. Muller & Co.
Belgium, 23 Leach & Co.
Holland, 16 Barber & Co.
Belgium, 26 J. Cockerill Line
Germany, 240 A. Charman
France, 13 Farringdon Engineering Co.
Holland, 2 7 c. Greeff & Co.
Germany, 18 N. & R. Collyer
Germany, £800 Greeff & Co.
,, 36 A. & M. Zimmermann
Holland, 8 Van Dam & Co.
Portugal, 455 Coverley & Westray
Germany, 184 A. & M Zimmermann
,, 17 Argo S.S. Co.
Belgium, 9 United S. Co.

Coal Products—
Aniline
Italy, 8 pks. ———

Coal Products—
Aniline
Belgium, 10 pks. Friend & Co.
Germany, 7 cs. Barber & Co.
Holland, 20 cks. C. Lovell & Sons
U.S.A., 1 brl. L. & I. D. Jt. Co.
Belgium, 27 pks. J. Cockerill Line
Germany, 13 2 cs. L. & I. D. Jt. Co.

Pitch
N. Russia, 86 cks. Berandina Bros.
Germany, 181 Fellows, Morton & Co.

Tar
N. Russia, 50 pps. Wenninghorn & Co.
,, 50 brls. P. Danischewsky

Colours—
France, 10 cs. L. & I. D. Jt. Co.
Germany, 1 ck. 3 ,,
,, 1 tin. Stockwell & Co.
Belgium, 67 dms. J. H. Ellisdon
France, 5 brls. Watt & Son
,, 2 Johnson, Sons & Co.
Holland, 6 Lovell & Sons
China, 6 cs. P. & O. S. N. Co.
Holland, 4 1 Atkins & Nisbet
France, 37 Lyon & Co.
,, 1 Argo S.S. Co.
Holland, 6 T. H. Lee
U.S.A., 10 brls. Anglo-American Oil Co.
Belgium, 52 pks. J. Cockerill Line
Holland, 4 T. H. Lee
,, 8 S. E. & C. Rly.
Belgium, 2 J. Cockerill Line
Germany, 1 L. & N. W. Rly. Co.
,, 3 25 Argo
,, 16 cs. S.S. Co.
,, 20 dms. Craven & Co.
,, 88 13 cs. L. & I. D. Jt. Co.
U.S.A., 70 cs. Lunham & Moore
,, 70 ,,
,, 14 ,, Field & Co.
Holland, 4 brls. Suter & Co.
Germany, 40 Smith & Son
Belgium, 10 J. Harrison
Germany, 7 Harrison & Co.
France, 20 Symons & Co.
,, 4 dms. Suter & Co.

Colours (Earth)—
Italy, 25 brls. Berger & Sons
,, 4 cks. Nich's. Wvs.
,, 3 3 J. Dooley
Belgium, 4 J. Harrison
,, 50 bgs. Lovell & Sons
Holland, 104 pks. Muller & Co.
U.S.A., 3 Sanderson & Sons
Italy, 6 brls. Barr, Moering & Co.
,, 15 Nich.'s Wvs.

Copper Ore—
Victoria, 1 t. Wainwright Bros. & Co.
N.S.W., 26 Temple, Thomson & Co.
W. Australia, 4 Smith & Son

Copper Sulphate—
Germany, £60 Charles & Fox

Cottonseed Oil—
U.S.A., 15 brls. F. Boehm
,, 3,000 tcs. W. Manning

Cream of Tartar—
Holland, 8 cks. Bacon & Co.
,, 8 Kirkpatrick & Co.
France, 15 B. & F. Wf. Co.
,, 9 Devon & Co.
,, 20 Bacon & Co.
Germany, 4 Prop. Hay's Wf.
Holland, 3 T. H. Lee

Cryolite Ore—
Denmark, 1 t. M. Dk. Co.

Dextrine—
Holland, 3 t. 10 c. Barber & Co.
Germany, 1 T. H. Lee

Dyestuffs—
Annatto
France, 1 ck. B. & F. Wf. Co.

Annatto Extract
Denmark, 1 tnk. C. G. Sorenson

Argols
Italy, 345 bgs. Thames S. T. & L. Co.
,, 297 Jacob & Sons

Cutch
Holland, 1,462 bgs. Baxter, Hoare & Co.

Extract (*otherwise undescribed*)
France, 12 cs. T. H. Lee

Gambier
Straits, 216 bgs. Barrow & Bco.
,, 267 bls. Butler's Wf.

Hemlock Extract
Canada, 35 cks. Hoare, Wilson & Co.

Indigo
E. Indies, 10 chts. Perlbach & Co.
,, 37 L. & I. D. Jt. Co.
,, 5 Arbuthnot, Latham & Co.
,, 7 De Grelle, Houdret & Co.

Myrabolans
E. Indies, 139 bgs. France, Fenwick & Co.
,, 1,820 Winser & Co.
,, 320 Cook & Co.

Oakwood Extract
France, 76 cks. Levinstein & Sons

Quebracho Extract
Arg. Rep., 1,000 bgs. Union Ltge. Co.

Sumac
Italy, 500 bgs. J. Kitchen
,, 50 J. Graves
,, 100 Vokins & Co.
,, 14 Keep Bros.

Tanners' Bark
Natal, 39 t. Blyth, Green & Co.
S. Australia, 10 Juett & Cain
Natal, 18 Rennie & Co.

Tanners' Extract
Canada, 165 brls. Boutcher, Mortimore & Co.

Tannin Extract
France, 100 cks. B. & F. Wf. Co.

Turmeric
E. Indies, 83 bgs. C. & H. Green

Valonia
A. Turkey, 75 t. Barrow & Bro.
,, 25 T. J. V. & T. Powell

Farina—
Holland, 25 t. J. Barber & Co.
,, 6 G. S. N. Co.
,, 20 10 c. Burgoyne & Co.

Formaldehyde—
Germany, £38 M. Dk. Co.

Gamboge—
France, 28 cs. L. & I. D. Jt. Co.

Glanz Gold—
Belgium, £340 J. Cockerill Line

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Glue—
Norway, £133 M. Dk. Co.
Belgium, 35 B. & F. Wf. Co.
,, 8 D. C. Thomas & Sons
Germany, £230 G. Herring
,, 21 J. Watt & Son
,, 208 L. & I. D. Jt. Co.
France, 615 Murray & Co.
Holland, 55 Hernu, Peron & Co.
,, 5 Van Dam & Co.
,, 5 Muller & Co.
Belgium, 155 Leach & Co.
,, 400 Duche & Sons
Germany, 120 J. Greig
,, 36 Prop. Hay's Wf.
,, 90 Craven & Co.
France, 48 J. Harrison
Germany, 105 Prop. Hay's Wf.
Holland, 176 A. Foley & Co.
,, 126 Steinhoff & Co.
,, 8 Van Dam & Co.
Belgium, 210 Duche & Sons

Glue Stock—
Belgium, 20 t. D. C. Thomas & Son
France, 1 18 c. B. & F. Wf. Co.
N.S.W., 9 17 c. Anning & Cobb
Ceylon, 36 L. & I. D. Jt. Co.
Belgium, 20 Thames S. T. & L. Co.

Glycerine—
Holland, £280 Spies Bros.
Germany, 90 Haller & Co.
Holland, 142 Fuerst Bros.

Guano—
Peru, 1,260 t. Hunter, Lomer & Co.
Seychelles, 625 t. Anglo-Cont. G. Wks.

Indigo (Synthetic)—
Holland, 6 cks. Van Dam & Co.

Iodine—
Germany, £62 T. H. Lee

Kainit—
Germany, 780 t. Berk & Co.

Lactic Acid—
Germany, 26 cks. Tennant's Wf.

Lead Ore—
Port E. A., 50 t. Rennie & Co.
China, 2 Major & Field

Linseed Oil—
Holland, 1 brl. Muller & Co.
,, 211 Hopwood & Co.
,, 84 Robinson & Co.
,, 180 Hopwood & Co.
Belgium, 54 dms. Palmer&Co.
,, 18 J. & E. Ayerst

Lithopone—
Germany, 2 brls. Prop. Hay's Wf.
Belgium, 20 cks. Lyon & Co.
Holland, 70 J. F. Lauderdale
,, 50 Spies Bros.
Germany, 19 Barber & Co.
Holland, 100 J. Budd

Magnesite—
Holland, £25 W. Dunz
,, 48 Cook & Co.

Magnesium Chloride—
Germany, £162 Fuerst Bros.
,, 35 J. Ebner

Manganese Ore—
Germany, 2 t. Craven & Co.
,, 10 Greenmore's Wf.
,, 1 Gilbert & Co.
Belgium, 35 Union Ltge. Co.

Manganesite—
Germany, £70 Argo S.S. Co.

Olive Oil—
Spain, 32 g. Matthew Clark & Sons
Italy, 56 gals. Prop. Middleton's Wf.
France, 189 Litchfield & Soundy
,, 2 t.126 Army & Navy C. Soc.
,, 11 F. Boehm
,, 4 346 L. & I. D. Jt. Co.
,, 210 Gill & Duffus
,, 108 F. W. Turpin

Olive Oil—
Italy, 24 gals. Savage & Sons
,, 172 Nich.'s Wvs.
France, 25 Knill & Co.
Italy, 2 t. 46 Pall Mall D. & F. Co.
France, 2 L. & N. W. Rly.
,, 250 brls. J. Watt & Son

Oxalic Acid—
Holland, 8 cks. Greeff & Co.

Paraffin Scale—
U.S.A., 418 t. 12 c. Anglo-Amer. Oil Co.
Germany, 2 10 T. H. Lee

Paraffin Wax—
Holland, 4 t. 6 c. Phillips & Graves
Germany, 1 T. H. Lee
Holland, 32 10 Leach & Co.

Phosphate of Lime—
Tunis, 2,130 t. Hunter, Lomer & Co.

Plumbago—
Ceylon, 148 brls. G. R. Haller
,, 366 Thredder, Sons & Co.
Japan, 108 cs. Hall & Co.
Holland, 3 Hernu, Peron & Co.
Germany, 25 cks. Prop. Hay's Wf.

Potassium Bicarbonate—
Holland, £50 A. & M. Zimmermann

Potassium Bichromate—
Holland, £68 Van Dam & Co.

Potassium Carbonate—
Germany, 22 cks. Cook & Co.
,, 25 Petri Bros.
,, 2 Argo S.S. Co.
,, 6 8 dms. Barber & Co.

Potassium Chlorate—
France, 20 cks. J. Harrison
Sweden, 100 kgs.24 cs. Boor & Co.

Potassium Cyanide—
Germany, £35 Argo S.S. Co.

Potassium Muriate—
Germany, 500 bgs. Odams M. & C. Co.

Potassium Permanganate—
Germany, 40 kgs. Steel & Co.

Potassium Prussiate—
Germany, 2 kgs. W. Smith
,, 3 cks. Prop. Hay's Wf.

Potassium Sulphate—
Germany, 50 bgs. Bessler, Waechter & Co.

Pyrites (Copper)—
Spain, 1,838 t. C. Tennant, Sons & Co.
,, 3,457 Anderson & Co.

Pyrogallic Acid—
Germany, 5 cs. T. H. Lee

Red Lead—
Holland, 40 cks. Burrell & Co.
,, 80 brls. J. Wat & Son
,, 8 Harrison & Co.
,, 60 F. Nye
Germany, 88 Barber & Co.
,, 95 Randall Bros.
,, 60 Muller & Co.
Belgium, 12 T. & W. Farmiloe

Ripolin—
Holland, 98 cs. Phillipps & Graves

Rosin—
Portugal, 13 cs. L. & I. D. Jt. Co.
France, 50 brls. Watt & Son
Holland, 51 pks. Van Dam & Co.

Saltpetre—
Germany, 75 t. 5 c. Hecker & Co.

Silica—
Belgium, £26 Harrison & Co.

Silver Ore—
U.S.A., £44,590 L. & I. D. Jt. Co.

Soap—
France, £142 Pronk, Davies & Co.
Holland, 27 Hernu, Peron & Co.
France, 25 L. & I. D. Jt. Co.
,, 32 Mory & Co.
Germany, 53 L. & I. D. Jt. Co.
U.S.A., 640 W. Davies
,, 80 Butler & Crispe
Belgium, 35 J. Cockerill Line
Italy, 22 J. Dooley
Holland, 34 Muller & Co.
France, 10 Davies, Turner & Co.
U.S.A., 165 Mercantile Ltge. Co.
Belgium, 40 Thomas & Sons

Soapstock—
Holland, £14 Johnson, Sons & Co.
France, 25 Props. Bull Wf.

Soap Powder—
Germany, £376 London & Rhine S. Office

Soda—
France, 5 c. Watt & Son
Holland, 10 t. Little & Johnston
,, 12 Muller & Co.
Belgium, 19 J. Harrison
Holland, 11 A. Kempin
Germany, 15 Steel & Co.
Belgium, 5 Petri Bros.
Germany, 1 Greeff & Co.
,, 5 C. Zimmermann
,, 12 A. & M. Zimmermann

Soda Crystals—
Holland, £126 Muller & Co.

Sodium Acetate—
France, 5 t. J. Harrison

Sodium Bicarbonate
Holland, 5 c. A. & M. Zimmermann

Starch—
Holland, 23 t. Muller & Co.
,, 27 Little & Johnson
,, 3 Gordon, Watts & Co.
U.S.A., 1 15 c. Field & Co.
,, 5 4 Props. Bull Wf.
Holland, 3 Van Dam & Co.
Belgium, 6 Leach & Co.
,, 9 12 E. & T. Pink
,, 2 5 G. W. Sheldon
,, 2 6 J. Harrison
,, 2 Burgoyne & Co.
,, 90 5 Barber & Co.
France, 11 L. Mendelsohn
,, 6 A. Hitchcock
Holland, 10 Henderson, Craig & Co.

Stearine—
Belgium, 39 bgs. Meyerstein & Co.
Holland, 13 bls. Muller & Co.
France, 50 Murray & Co.

Sulphur—
Italy, 3 t. 15 c. Symonds & Co.
,, 12 Hecker & Co.
,, 1 10 Taylor Bros,
,, 2 Devon & Co.
,, 4 Fuerst Bros.

Sulphur Chloride—
Germany, £61 Typke & King

Tallow—
N.S.W., 321 cks. Phillipps & Graves
Queensland, 50 Goad, Rigg & Co.
,, 95 Anning & Cobb
N. Zealand, 72 N. Zealand L. & M. D. Co.
N.S.W., 18 Hill & Sons
,, 48 Thornett & Fehr.
,, 85 Anning & Cobb
,, 100 Union Ltge. Co.
,, 127 Bessler Waechter & Co.
,, 133 Blackfriars L. & Co.
U.S.A., 58 W. Alexander
Victoria, 123 Phillipps & Graves

Tartaric Acid—
Italy, 10 kgs. Reitmeyer & Co.

Thorium Nitrate—
Germany, £702 Argo S.S. Co.

Tin Ore—
Spain, 6 t. Hoare, Wilson & Co.

Turpentine—
France, 250 brls. Watt & Son
N. Russia, 156 London Oil Storage Co.

Ultramarine—
Belgium, 4 cks. O. Lechla
Germany, 1 10 cs. Argo S. S. Co.
Holland, 70 Lunham & Moore
,, 11pks.9 cs. Muller & Co.

Wax—
Germany, 25bls.20 cs. T. H. Lee
,, 42 L. & I. D. Jt. Co.
,, 1 Clarke & Smith
E. Indies, 10 G. & H. Green
France, 8 Skilbeck Bros.
Morocco, 2 bgs. Forwood Bros. & Co.
Germany, 40 P. J. Johnson
,, 49 13 pks. T. H. Lee
France, 23 Lewis & Peat
Holland, 3 cs. Muller & Co.
U.S.A., 7 Davies, Turner & Co.
Germany, 19 bgs. Prop. Hay's Wf.

White Lead—
Holland, 50 cks. Steinhoff, Son & Co.
,, 36 Muller & Co.
,, 25 London & Rhine S. Office
,, 44 Rose & Co.
U.S.A., 100 Greeff & Co.
,, 40 brls. Fenner Alder & Co.
Belgium, 6 Felton & Crepin
,, 4 Lyon & Co.
Germany, 6 Argo S.S. Co.
,, 51 Randall Bros.
France, 63 brls. Watt & Son

Wolfram Ore—
Spain, 18 t. Hoare, Wilson & Co.

Zinc Oxide—
U.S.A., 6 pks. T. L. Field & Co.
Holland, 20 brls. M. Ashby
Germany, 25 cks. Weber, Smith & Hoar
,, 125 Burrell & Co.

Zinc White—
Holland, 50 cks. Spies Bros.
,, 52 Muller & Co.

LIVERPOOL

Week ending December 7.

Acetic Acid—
Antwerp, 31 cbys.

Alcohol—
Hamburg, 2 dms.

Alum (Chrome)—
Antwerp, 7 brls.

Antimony Sulphide—
Hamburg, 3 cks.

Barium Sulphate—
Hamburg, 72 cks.

Barytes—
Rotterdam, 137 pks.
Antwerp, 50 cks.

Beeswax—
Bathurst, 3 pks. Bathurst Tdg. Co.
Hamburg, 44

Castor Oil—
Antwerp, 15 brls.
,, 14 J. T. Fletch & Co.
Leghorn, 10 cs.

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Chemicals (*otherwise undescribed*)
Rouen, 20 cks. Co-op. W'sale Society
Havre, 4

Chloral Hydrate—
Rotterdam, 2 cs.

Colours—
Rotterdam, 53 pks.

Colours (Earth)—
Hamburg, 70 bgs.

Copperas—
Bremen, 10 cks.

Copper Ore—
Huelva, 2,300 t. United Alkali Co.
Almeria, 155
Valparaiso, 709 bgs. Vivian & Sons
" 190 Steinhardt, Walker & Co.
" 3,020
Sydney, 1,071
Lisbon, 263
" 100 t.

Copper Regulus—
Valparaiso, 294 bgs. Gibbs & Son
" a qty. Allardice & Co.

Cottonseed Oil—
Savannah, 100 brls.

Cream of Tartar—
Tarragona, 10 brls.
Bordeaux, 74 cks.

Dried Blood—
Campana, 495 bgs. River Plate F. M. Co.

Dyestuffs—
Annatto
Sourabaya, 11 bgs.
Bark Extract
New York, 30 brls.
Chestnut Extract
Brindisi, 250 brls.
Genoa, 100
Leghorn, 100
Cutch
Amsterdam, 4,566 bgs.
Rangoon, 750 bxs.
Divi Divi
Havre, 107 bgs.
Oak Extract
Bari, 208 brls.
Sumac
Boston, 14 brls. B. H. Dyewood & C. Co.
Palermo, 550 bgs. 200 brls.
Tannin Extract
Bordeaux, 575 cks.
" 344 Francis & Co.

Farina—
Stettin, 10 bgs

Formaldehyde—
Stettin, 6 brls

Glue—
Boston, 36 crts. Robinson & Son
Havre, 10 cks. Cunard S.S. Co.
Hamburg, 10

Glycerine—
Campana, 7 dms. River Plate F. M. Co.

Gold Ore—
Valparaiso, 100 bgs. Vorwerk & Co.

Lactic Acid—
Rotterdam, 11 cks.

Lithopone—
Rotterdam, 150 cks.
Antwerp, 20

Magnesite—
Fiume, 101 bgs.
Rotterdam, 323

Manganese Ore—
Rotterdam, a qty.

Manganese Silicate—
Bordeaux, 59 cks.

Mineral White—
Bordeaux, 500 bgs.

Ochre—
Almeria, 211 bgs.

Oleine—
Antwerp, 4 cks.

Olive Oil—
Bordeaux, 257 cs. 1 bdl.

Paraffin Wax—
Amsterdam, 335 bgs.

Phosphates—
Ghent, 1,500 bgs.

Phosphorus—
Montreal, 200 cs.

Potash—
Hamburg, 51 dms.
Montreal, 3 brls.
Rouen, 42 cks. Co-op. W'sale Society

Potash Lye—
Hamburg, 20 dms.

Pyrites—
Huelva, 330 t.
" 3,671 United Alkali Co.

Red Lead—
Rotterdam, 6 cks.

Rosin—
Bordeaux, 320 cks.
New York, 500 brls.

Rubber—
Winnebah, 13 cks. T. & A. Swanzy
Assinee, 6 Cie Française
Gd. Bassam, 3 Petri Bros.
" 1 Edwards Bros.
" 5 Olivier & Co.
" 1 Paget, Digby & Co.
Lahou, 9 Cie Française
" 1 Earnsham & Co.
" 1
Gd. Bassa, 2 Liberian Rubber Co.
Sierra Leone, 1
" 4 Ratcliffe & Co.
Bathurst, 3 Bathurst Tdg. Co.
" 7 A. Cros & Co.
Ceara, 55 pks.
Parnahyba, 551
Para, 94 651 cs.
Manaos, 744
Colombo, 6
Valparaiso, 18 bls. Barber & Co.
" 37 Schroeder & Co.
" 30 Widenmann, Broicher
Bordeaux, 5 cks.
Winnebah, 1 African Assoc., Ld.
" 1 Millers, Ld.
Ht. Assinee, 11
" 1 Michalides & Co.
" 2
Lahou, 2 R. & W. King
Sassandra, 3 "
" 2 C. F. A. Co.
" 4 Woodin & Co.
" 2 Rider & Co.
Tabou, 2
Sinoe, 5 Liberian Rubber Co.
Sherbro, 3 Cie Franc. & Co.
Sierra Leone, 2 Pickering & Berthoud

Salt—
Hamburg, 60 bgs.

Salt (Waste)—
Hamburg, 750 t.

Saltpetre—
Hamburg, 157 kgs. 264 pks.

Silver Ore—
Valparaiso, 35 bgs. Aramayo & Co.
" 58
" 248 sks. Bath & Son
" 64 Gruning & Co.
" 65 F. Huth & Co.
" 24 Graham, Rowe & Co.

Soap—
Bari, 483 cs.
Bombay, 655 pks.
Boston, 32
Leghorn, 250
N. York, 5 a qty. 789 brls.

Soap Stock—
New York, 150 brls.

Sodium Hyposulphite—
Hamburg, 40 kgs.

Starch—
Amsterdam, 40 bxs.
Rotterdam, 100 cs.
Ghent, 80
Antwerp, 460
New York, 30 brls.

Sulphur—
Catania, 1,319 pks.

Tallow—
Alexandria, 5 brls.
Campana, 296 cks. River Plate F. M. Co.
Boston, 150 tres.
Montreal, 6 Scott & Co.
New York, 375 50 50 hhds.
Sydney, 298
Valparaiso, 31 W. K. Cameron
" 60 W. Carpenter
" 8 Falkland Isles Co.
" 20 J. H. Dean

Tannic Acid—
Catania, 188 brls.

Tin Ore—
Sydney, 113 bgs.

Ultramarine—
Bremen, 10 cs.

Wax—
Baltimore, 565 brls.
Ceara, 37 bgs.
Hamburg, 50 cs.
Maranham, 2 6 brls.
Parnahyba, 422
New York, 435
Valparaiso, 2 Gruning & Co.

White Lead—
Rotterdam, 104 cks.

Zinc Ashes—
Rouen, 21 bgs.

Zinc Oxide—
Rotterdam, 5 cks.
Hamburg, 8 brls.
New York, 300

Zinc White—
Stettin, 15 cks.
Rotterdam, 4.

MANCHESTER.

Week ending December 7.

Acetone—
Hamburg, 5 dms.

Alumina Sulphate—
Rotterdam, 280 bgs.

Antimony—
Hamburg, 1 ck.

Antimony Oxide—
Hamburg, 1 ck.

Antimony Salts—
Rouen, 10 dms.
Hamburg, 4 cks.

Asbestos—
Quebec, 700 bgs.

Calcium Carbide—
Montreal, 273 cans.

Chemicals (*otherwise undescribed*)
Boulogne, 11 cks. 10 cs.
Rotterdam, 25 kgs.

Chloral Hydrate—
Rotterdam, 5 cs.

Chromic Acid—
Hamburg, 2 dms.

Coal Products—
Alizarine
Rotterdam, 50 cks.
Antline
Antwerp, 18 brls.
Creosote Salts
Rotterdam, 15 cks.
Tar Salts
Hamburg, 13 cks.

Cobalt Chloride—
Hamburg, 1 cs.

Cobalt Oxide—
Rouen, 3 cs.

Colours—
Hamburg, 2 cks.
Rouen, 249
R'tterdam 127 641 pks.
10 cs.

Corundum Ore—
Montreal, 309 bgs.

Dextrine—
Hamburg, 9 cs.
Stettin, 100 bgs.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 5 brls.
Boulogne, 78 cks.

Dyestuffs—
Indigo Paste
Rotterdam, 120 cks.
Tannin
Antwerp, 10 cks.

Farina—
Stettin, 2,695 bgs.
Rotterdam, 170 bls.

Glue—
Antwerp, 40 bgs.
Rotterdam, 20 brls. 5 cs.

Lead Acetate—
Stettin, 23 cks.
Rotterdam, 38

Magnesite—
Rotterdam, 112 brls.

Magnesium Carbonate—
Rotterdam, 100 bgs.

Oxalic Acid—
Rotterdam, 5 cks.
Hamburg, 10

Potash—
Montreal, 12 brls.
Hamburg, 4 dms.

Potassium Chlorate—
Antwerp, 10 brls.

Potassium Prussiate—
Antwerp, 4 cks.
Rouen, 10

Pyrites—
Pomaron, 1,395 t.

Red Lead—
Rotterdam, 1 ck.
Rouen, 19

Rosin—
Brunswick, 2 brls.

Salt (Waset)—
Hamburg, 1,350 bgs.

Soap—
Stettin, 100 brls.

Sodium Chlorate—
Antwerp, 60 brls.

Sodium Nitrite—
Rouen, 16 cs.

Starch—
Ghent, 38 cs.
Antwerp, 40
New York, 1

Stearine—
Antwerp, 4 brls. 13 bgs.
Boulogne, 2 cks.

Tartar—
Hamburg, 1 ck.

Turpentine—
Rotterdam, 2 bskt.-btls.

Ultramarine—
Rotterdam, 17 cs.

Wax—
Hamburg, 8 bgs.

Zinc Dust—
Stettin, 32 cks.

Zinc Oxide—
Antwerp, 12 brls.

Zinc White—
Rotterdam, 20 cks.

HULL.

Week ending December 7.

Asbestos—
Hamburg, 23 crts.

Barytes—
Antwerp, 17 cks. 600 bgs.
Amsterdam, 137 350
Rotterdam, 100 Hull & N. S.S. Co.
Bremen, 62

Beeswax—
Hamburg, 15 bls. Wilson & N. E. R. S. Co.

Chemicals (*otherwise undescribed*)
Hamburg, 4 brls. Wilson & N. E. R. S. Co.
Rotterdam, 7 1 cs. Hull & 10 cks. N. S. S. 13 pks. Co.

Coal Products—
Alizarine
Rotterdam, 48 cks. Hull & N. 147 pks. S. S. Co.

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Coal Products—
Aniline
Rotterdam, 175 pks. Hull & N. S.S. Co.
Creoso e Salt
Rotterdam, 5 bgs. Hull & N. S. S. Co.
Tar Oil
Rotterdam, 94 cks. Hull & N. S. S. Co.

Colours—
Hamburg, 2 cks. Wilson & N.
4 cs. E. R. S. Co.
New York, 200 Wilson, Sons & Co.
Antwerp, 26 pks.
Rotterdam, 241 Hull & N. S.S. Co.
Antwerp, 18 Wilson & N. E. R. S. Co.

Colours (Earth)—
Amsterdam, 4 cks. Hull & N. S.S. Co.

Cream of Tartar—
Rotterdam, 6 cks. Hull & N. S.S. Co.

Dextrine—
Stettin, 50 bgs.

Dyestuffs—
Cutch
Rangoon, 350 bxs.
Dyewood Extract
Dunkirk, 12 cks. Wilson & N. E. R. S. Co.
Indigo Paste
Rotterdam, 30 brls. Hull & N. S.S. Co.
Sumac
Palermo, 1,120 bgs. Wilson, Sons & Co.
,, 775

Farina—
Antwerp, 50 brls.
Harlingen, 200 bgs.

Ferro Silicon—
Antwerp, 33 cks.
42 cs.

Formaldehyde—
Stettin, 6 brls. Wilson, Sons & Co.

Glue—
Rotterdam, 800 bgs.
,, 5 Hull & N. S.S. Co.

Lactic Acid—
Rotterdam, 25 cks. Hull & N. S.S. Co.

Linseed Oil—
Rotterdam, 545 brls. Hull & N. S.S. Co.

Lithopone—
Rotterdam, 104 cks. Hull & N. S.S. Co.

Magnesite—
Trieste, 224 bgs.

Olive Oil—
Bari, 10 cs. Wilson, Sons & Co.
Messina, 22 cks.
,, 61 ,,

Oxalic Acid—
Hamburg, 7 brls. Wilson & N. E. R. S. Co.

Phosphate—
Dunkirk, 250 t.
F'nandina, 2,000

Plumbago—
Antwerp, 143 brls. Wilson & N. E. R. S. Co.

Potassium Carbonate—
Antwerp, 52 cks. Wilson & N. E. R. S. Co.

Red Lead—
Rotterdam, 40 cks. Hull & N. S. S. Co.

Rosin—
Bordeaux, 20 cks. Moran & Co.
Fernandina, 2,684 brls.

Rubber—
Riga, 40 pks.

Saltpetre—
Hamburg, 26 brls.
,, 20 bls. Wilson &
,, 26 pks. N.E.R.S.Co.
,, 200 bgs. Wilson, Sons & Co.

Soap—
Bari, 22 cs.
Rotterdam, 6 pks. Hull & N. S.S. Co.

Soda—
Rotterdam, 300 bgs. Hull & N. S. S. Co.

Soda Crystals—
Ghent, 50 bgs.

Starch—
Antwerp, 41 cs.
Ghent, 37
Antwerp, 112 Wilson & N. E. R. S. Co.

Sulphur—
Catania, 1,512 bgs. Wilson,
33 brls. Sons & Co.

Tallow—
Dunkirk, 30 cks.

Tartaric Acid—
Bari, 54 brls. Wilson, Sons & Co.
Rotterdam, 4 cks. Hull & N. S S. Co.

Tin Oxide—
Rotterdam, 4 cks. Hull & N. S.S. Co.

Zinc Oxide—
New York, 400 brls.

GLASGOW.

Week ending December 12.

Acetic Acid—
Rotterdam, 48 cks. 37 pks.

Albumen—
Hamburg, 2 cks.

Barytes—
Rotterdam, 54 cks.

Beeswax—
Leghorn, 7 cs.

Bleaching Powder—
New York, 510 cs.

Caustic Potash—
Hamburg, 120 dms.

Coal Products—
Rotterdam, 12 cks. 66 pks.
2 brls.
Aniline
Amsterdam, 51 cs.
Aniline Colour
Rotterdam, 2 brls.
Naphthol
Rotterdam, 4 cks.
Picramic Acid
Rotterdam, 50 brls.

Colours—
Rotterdam, 2 cks. 155 pks.

Colours (Earth)—
Rotterdam, 2 bgs.

Cottonseed Oil—
New York, 998 tcs.

Cream of Tartar—
Valencia, 20 brls.
Hamburg, 10 cks.

Dyestuffs (*otherwise undescribed*)—
Boston, 2 kgs. 1 bx. 1 hf.-brl.

Dyestuffs—
Indigo (Artificial)
Rotterdam, 2 cks.

Farina—
Deifzyl, 2,502 bgs.

Glycerine—
Hamburg, 10 cs.

Linseed Oil—
Amsterdam, 85 brls.

Lithopone—
Rotterdam, 20 cks.

Molasses—
S. John's, N'fld., 1 jar.

Olive Oil—
Messina, 28 cks.

Oxalic Acid—
Hamburg, 2 cks.

Potassium Bichromate—
Rotterdam, 4 cks.

Rubber—
Hamburg, 3 cks.
20 bgs.

Soap—
Genoa, 5 cs.

Soda—
Rotterdam, 4 cks.

Starch—
Rotterdam, 180 cs.
Amsterdam, 25 bgs.

Stearine—
Rotterdam, 15 bls.

Sulphur—
Catania, 294 cks. 145 tcs.
1,120 bgs.

Tallow—
Philadelphia, 200 tcs.
New York, 100

Tartar—
Rotterdam, 2 cks.

Tartaric Acid—
Rotterdam, 11 cks.

Tar (Wood)—
Gothenburg, 1 ck.

Tin Oxide—
Rotterdam, 4 cks.

Ultramarine—
Rotterdam, 8 pks.

White Lead—
Rotterdam, 66 cks.

TYNE.

Week ending December 7.

Alumina—
R'terdam, 1,640 bgs. Tyne S.S. Co.

Asbestos—
Hamburg, 39 crts.

Barytes—
Rotterdam, 10 cks. Tyne S.S. Co.
,, 120 bgs. ,,

Calcium Carbide—
Trondhjem, 400 dms. Matthiessen & Co.

Coal Products—
Tar
Gothenburg, 75 cks.

Iron Oxide—
Rotterdam, 2 cks. Tyne S.S. Co.
Amsterdam, 40 brls.

Phosphate of Lime—
Antwerp, 360 t.

Starch—
Amsterdam, 1 ck. Swanston & Sons

Stearine—
Rotterdam, 14 bgs. Tyne S.S. Co.

White Lead—
Antwerp, 27 cks. Tyne S.S. Co.

Zinc Oxide—
Antwerp, 1 brl. Tyne S.S. Co.

GOOLE.

Week ending December 7.

Ammonia—
Hamburg, 1 ck.

Bog Ore—
Harlingen, 130 t.

Caoutchouc—
Boulogne, 7 cks.

Chemicals (*otherwise undescribed*)
Boulogne, 11 cs.
24 cks.
Rotterdam, 29 12
2
Hamburg, 31 kgs. 36 dms.
56 brls.

Dextrine—
Hamburg, 2 cks.

Dyestuffs (*otherwise undescribed*)—
Antwerp, 26 brls.
1 cs.
Boulogne, 90 cks. 1
Rotterdam, 705 56
Hamburg, 290 47

Dyestuffs—
Logwood
Hamburg, 18 t.

Farina—
Amsterdam, 100 bgs.
Hamburg, 4 cks.
Delfzyl, 1,993

Glue—
Dunkirk, 45 cks.
Antwerp, 80 bgs.
Hamburg, 3

Ochre—
Dunkirk, 57 cks.

Phosphate—
Dunkirk, 284 t.

Potash—
Hamburg, 3 cks.

Pyrites (Iron)—
Huelva, 1,661 t.

Salt (Waste)—
Hamburg, 60 t.
1,200 bgs.
738 cks.

Starch—
Antwerp, 120 cs.
Ghent, 38

Stearine—
Antwerp, 11 brls.
13 bgs.
Boulogne, 5 cks.
Hamburg, 3

Tungsten—
Hamburg, 5 cks.

Wax—
Hamburg, 12 bgs.

GRIMSBY.

Week ending December 4.

Acid (*otherwise undescribed*)—
Rotterdam, 1 brl.

Arsenic—
Hamburg, 5 cks.

Caoutchouc—
Hamburg, 55 cs.
Dieppe, 2 pks.
Antwerp, 4

Chemicals (*otherwise undescribed*)
Hamburg, 13 cks.
Rotterdam, 22

Colours—
Hamburg, 2 cks. 40 pks.
Rotterdam, 6
Antwerp, 74

Kainit—
Hamburg, 500 bgs.

Soap—
Antwerp, 20 cs.

Wax—
Hamburg, 4 bgs.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 11.

Alcohol (Wood Spirit)—
Bordeaux, 237 gals.

Alcohol (Wood Spirit)—
Le Treport, 2,350 gals.

Ammonia—

Brussels,	1 ck.	4 cs.	£14
Calcutta,	10	14	39
Calcutta,	10 cs.		£15
Christchurch,	12		16
Dunedin,	3		53
Rangoon,	3		9
Jamaica,	21 cs.		£12
Alexandria,	4		6
Durban,	25		44
Algoa Bay,	206 pks.		8

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Ammonia—
Napier, 3 c. £9
Delagoa Bay, 12 35
Bombay, 8 12
Paris, 7 9

Ammonia (Anhydrous)—
Calcutta, 30 cylds. £293
Colombo, 1 6
C. Town, 2 63
E. London, 10 124
Durban, 10 124
Zanzibar, 1 cs. 9
Libau, 3 19

Ammonia Salts—
Calais, 2 cks. £16

Ammonium Carbonate—
Brussels, 32 cks. £60
Hamburg, 4 28
Antwerp, 17 17 brls. 91
Libau, 25 kgs. 3 32
Cologne, 46 cks. 10
Rangoon, 10 cs. 21
Christiania, 10 14
Dusseldorf, 7 24
Hamburg, 2 4
Abo, 5 13

Ammonium Muriate—
Melbourne, 1 t. 9 c. £30
Antwerp, 7 19

Ammonium Sulphate—
Malaga, 170 t. 2 c. £2,084
Kobe, 100 1,205
Yokohama, 150 1,800

Antimony (Regulus)—
Pirœus, 2 t. 6 c.
Amsterdam, 150

Asbestos—
Bombay, £10

Barium Binoxide—
Boston, 6 t. 2 c. £210

Borax—
Sydney, 2 t. 10 c. £112
Beira, 15 36

Calcium Carbide—
Christchurch, 6 c. £7
Singapore, 3 5
Durban, 5 10

Camphor—
Halifax, £152

Carbon Bisulphide—
Dunedin, 40 dms. £26
Otago, 79 40
B. Ayres, 25 crts. 63

Caustic Soda—
Napier, { 10 cs. / 6 c. £22
Durban, 18 20
C. Town, 5 6
Zanzibar, 1 t. 14 17
Lyttelton, 10 13

Chalk—
Phila'phia, 500 t.
Yokohama, 4

Chemicals (*otherwise undescribed*
Rotterdam, 32 cks. 2 cs. £182
Bombay, 2 kgs. 11
Sydney, 8 50
Hamburg, 40 158
St John's N.B., 87 218
Copenhagen, 1 2 17
Bremen, 6 4 43
Ostend, 32 31
Wellington, 4 8
Durban, 20 38
Libau, 1 26
Reval, 5 147
Philadelphia, 4 87
Pirœus, 1 6
Havre, 1 20
E. London, 4 19
C. Town, 1 8
Mossel Bay, 2 6
Hamburg, 1 30
Barcelona, 3 58
Toronto, 3 26
St. John, N.B., 3 1 36
Beira, 10 pks. 11
Durban, 2 6
Delagoa Bay, 60 114
Melbourne, 398 50 516
Adelaide, 48 70
Dunedin, 1 8

Citric Acid—
Sydney, 13 pks. £9
Alexandria, 2 c. 19
E. London, 1 10

Citric Acid—
Santiago, 1 c. £14
Genoa, 1 t. 1 83
Algoa Bay, 1 12
Melbourne, 1 181
Singapore, 1 12
New York, 10 95

Coal Products—
Alizarine
Dunedin, 1 cs. £36
Boston, 10 cks. 202
Tuticorin, 22 279
Madras, 15 54
Aniline Dye
Boulogne, { 21 cks. / 1 cs. 6 pks. £184
C. Town, 1 23
Copenhagen, 1 kg. 6
Benzol
Brussels, 37 cks. £61
Carbolic Acid
Calcutta, 3 pks. £13
Durban, 25 dms. 10
Constanti'ple, 1 ck. 6
N. York, { 60 / 70 cs. 5 523
Carbolic Acid (Liquid)
Dunedin, 100 dms. £40
Creosote
Galveston, 2,336 t. £4,982
New York, 3 cs. 30
Sydney, 1 6
Creosote Oil
Malta, 120 brls. £90
Galveston, 1,917 t. 4,513
Creosote Salt
Philadelphia, 1,200 bgs. £105
Mirbane
New York, 40 cs. £100
Naphtha
Dunedin, 25 dms. £12
Naphthaline
Rangoon, 20 cs. £9
Bombay, 30 13
New York, 66 cks. 69
Philadelphia, 621 bgs. 157
Pitch
Cette, 1,000 t. £1,550
Antwerp, 1,700 1,955
Rangoon, 50 kgs. 15
Delagoa B. 1,765 2,740
St. Nazaire, 900 1,103
Durban, 20 10
Boston, 500 brls. 250
Cette, 1,500 2,325
Gravelines, 135 155
Tar
Gijon, 4 brls. £36
Maryborough, 25 dms. 5
Hamburg, 5 cks. 6
Auckland, 40 14
Algoa Bay, 280 120
Delagoa Bay, 30 6
Mossel Bay, 130 5
Adelaide, 300 170
E. London, 200 11
Wellington, 50 10
Melbourne, 50 11
Tar Oil
Rotterdam, 10 cks. £14
Paris, 50 brls. 35
Hamburg, 100 53
Tar Salt
New York, 24 cks. £250

Copper Sulphate—
Riga, 2 t. 15 c. £58
Algoa Bay, 10 12
Odessa, 13 430
Calcutta, 5 114

Cottonseed Oil—
Bordeaux, 28 t. 17 c.
Cologne, 8 11
Constanti'ple, 8 10
Dedeagatch, 5 11
Rotterdam, 36 18
Salonica, 5 7
Antwerp, 9 18
Bombay, 18 16
Dunkirk, 8 7
Gibraltar, 8 11
Marseilles, 18 11

Cream of Tartar—
Demerara, 5 c. £21
Melbourne, 15 60
Wellington, 1 t. 5 106
Brisbane, 10 14

Cyanide (*otherwise undescribed*)—
Beira, 3 t. 10 c. £256
Delagoa Bay, 13 16 1,153
New York, 12 899
Hobart, 3 216

Disinfectants—
Colombo, 3 cs. £4
Dunedin, 1 tnk. 5 60
Townsville, 20 dms. 15
Sydney, 10 29
Hamburg, 7 cks. 25
Wellington, 25 77
Boston, 12 pks. 338
Christchurch, 8 22
Hong Kong, { 62 50 / 50 cks. 264
St. Lucia, 3 2 10
Calcutta, 2 6
E. London, 24 4 12
Mossel Bay, 12 6
Algoa Bay, 320 10 195
C. Town, 2 8
Libau, 1 25
Napier, 4 9
Cologne, 10 175
Brisbane, 90 42
Beira, 55 12
Auckland, 3 6
Bombay, 4 12
Delagoa Bay, 30 10 kgs. 20
Jamaica, 10 61

Dyestuffs (*otherwise undescribed*)—
New York, 10 cks. £45

Fertiliser—
Landerneau, 275 t. 17 c. £1,300
Morlaix, 108 8 350

Gelatine—
Melbourne, 1 t.

Glycerine—
Bombay, 1 t. £56
E. London, 6 c. 4
Leghorn, 2 6
Constantinople, 2 6
Calcutta, 2 6
Beira, 1 1
Durban, 3 9
Paris, 1 10

Hydrochloric Acid—
Alexandria, 7 cs. £7
Rockhampton, 1 t. 18 42

Lead Acetate—
Bombay, 5 kgs. £9

Linseed Oil—
Adelaide, 7 t. 5 c.
Alexandria, 7
Auckland, 3 18
Bahia, 17
Bordeaux, 1 16
Brisbane, 38 9
C. Town, 1 14
Cuba, 16
Delagoa Bay, 4 6
Demerara, 4 8
Durban, 6 2
Invercargill, 7 15
Lisbon, 3 7
Mossel Bay, 7
Otago, 7 13
Pernambuco, 10 9
P. Elizabeth, 12
Trinidad, 2
Townsville, 2
Wellington, 4
Yokohama, 5 8
Bangkok, 5 14
Bombay, 16
Cebu, 1
Grenada, 9
H. Kong, 14
Kobe, 5 19
Madras, 2 4
Malta, 11
Melbourne, 5 1
Newcastle, 27 12
Rangoon, 3 9
Rio de Jan., 52 8
Santos, 6 15
Singapore, 18
Smyrna, 1 15

Manganese Bronze—
Bremen, 5 t.

Manure—
Channel Is., 10 t. £56
Trequier, 135 700
Paris, 5 4 c. 26
Penang, 81 19 656
Yokohama, 34 13 250
Pirœus, 10 1 60
Alguim, 10 1 60
Rotterdam, 31 15 175
Guernsey, 20 80
Philadelphia, 2 29
Jersey, 107 16 772

Mineral White—
Paris, 17 t.

Nitric Acid—
Brisbane, 15 c. £7
Durban, 2 5

Oxalic Acid—
Madras, 6 c. £11
Pirœus, 1 ck. 11

Phosphate—
Oporto, 2 t. £6

Phosphoric Acid—
Otago, 1 cs. £5
E. London, 1 c. 9
New York, 23 cbys. 93
Melbourne, 2 cs. 10

Phosphorus—
Sydney, 22 cs. £146
Otago, 10 66

Potash—
Sydney, 2 c. £5

Potassium Carbonate—
Riga, 1 t. 5 c. £32

Potassium Chlorate—
Lyttelton, 11 c. £18
Reval, 6 12
Havana, 1 t. 33

Potassium Iodide—
Bangkok, 2 cs. £42

Potassium Nitrate—
Bombay, 2 cs. £38

Potassium Permanganate—
Pt. Said, 16 c. £29

Potassium Silicate—
Bilbao, 1 t. £19

Potassium Sulphate—
Sydney, 4 cs. 7 c. £96
Toronto, 8 t. 32

Salammoniac—
Melbourne, 5 c. £11
Antwerp, 1 t. 9 56
Mersyne, 6 12

Salt—
Brisbane, 2 t.
C. Town, 2
Lyttelton, 30
Wellington, 30

Saltpetre—
Brisbane, 3 t. £73
Pernambuco, 5 15 c. 151
Lyttelton, 1 2 27
Oporto, 13 5 330
Rio de Jan., 6 17 184
Vigo, 5 2 120
New York, 2 59
Algoa Bay, 13 cs. 17
Bahia, 2 12 c. 68

Sheep Dip—
Riga, 10 cs. £90
Beira, 3 7
Bluff, 20 37
Delagoa Bay, 80 pks. 24
Dunedin, { 107 / 10 cks. 280
Invercargill, 3 t. 8 c. 64
Townsville, 5 dms. 6

Silver Nitrate—
Calcutta, 1 t. £34

Soap—
Alexandria, 8 c.
Antwerp, 1
Auckland, 1 t. 5
Barbadoes, 5
Bordeaux, 1
Bombay, 5 14
Bremen, 13
Brisbane, 11
Calcutta, 2 7
Cape Town, 2 17
Constantinople, 3
Copenhagen, 1
Durban, 1 6
E. London, 4
Flushing, 1
Genoa, 6
H. Kong, 1
Kolindini, 2
Lisbon, 2 15
Malaga, 1
Malta, 10
Marseilles, 1
Melbourne, 1
Napier, 1 4
Otago, 1 4
Paris, 13
Perth, 6
P. Elizabeth, 7
P. Sudan, 3
Rangoon, 4
Rotterdam, 6 15
Tientsin, 10
Toronto, 3
Trinidad, 2
Vancouver, 5

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Soap—
Beira, 8 c.
Boulogne, 2
Channel Is., 18
Christchurch, 1
Delagoa Bay, 17
Lisbon, 1
Melbourne, 6
Sydney, 5
Zanzibar, 1 t. 4

Soap Extract—
Christchurch, 1 t. 2 c.

Soap Powder—
Durban, 10 c.

Soda Ash—
Tientsin, 1 t. 17 c. £8
Zanzibar, 42 16 214
Oporto, 10 5

Soda Crystals—
Zanzibar, 1 t. 8 c. £8
Lisbon, 1 6 8

Sodium Bicarbonate—
Sydney, 5 c. £7
Zanzibar, 1 t. 8
Calcutta, 12 16

Sodium Hyposulphite—
Wellington, 1 t. 9 c. £9

Sodium Nitrate—
Oporto, 2 t. £23

Sodium Sulphate—
Christiania, 200 t. £400

Sodium Sulphide—
Lyttelton, 10 t. 2 c. £73
Dunedin, 4 4 30

Sodium Tartrate—
Sydney, 1 t. £71

Starch—
Boston, 6 c.
Christchurch, 2 t.
Delagoa Bay, 2 10
Durban, 4 8
Otago, 7
Wellington, 1
Brisbane, 3
Channel Is., 4
E. London, 11
Napier, 1 5
P. Elizabeth, 3 18
Sydney, 13 15

Strontium Nitrate—
Lyttelton, 2 kgs. £6

Sulphur—
Melbourne, 6 brls. £9
Trinidad, 1 t. 10 c. 10

Sulphur Compound—
Ostend, 3 t. 5 c. £348

Sulphuric Acid—
Demerara, 2 t. 10 c. £11
Trinidad, 8 34
Pernambuco, 7 8
Algoa Bay, 6 12

Superphosphate of Lime—
Oporto, 2 t. £10
Tercura, 200 670

Tallow—
Amsterdam, 1 t. 4 c.
Bombay, 5 11
Harlingen, 4
Rotterdam, 9 2
Brussels, 25
Hamburg, 4 13

Tartaric Acid—
Channel Is., 1 c. £6
Christchurch, 2 11
Canton, 1 6
Algoa Bay, 2 11
Napier, 2 10
Reval, 2 13
Singapore, 1 6

Wax—
Brussels, 2 t. 7 c.

White Lead—
Auckland, £38
Bombay, 104
Brisbane, 449
Otago, 75
Wellington, 206
Adelaide, 56
Melbourne, 16
Ostend, 238
C. Town, 26
Delagoa Bay, 37
Durban, 224
Hamburg, 430
Hong Kong, 28
Sydney, 343

LIVERPOOL

Period ending December 11.

Acetic Acid—
Tampico, 3 c. £7

Alum—
C. Town, 7 c. £2
S. Leone, 1 kg. 1
Trinidad, 1 brl. 1
Calcutta, 7 t. 42
Desterro, 19 6
Rangoon, 1 19 10
Bombay, 1 6
Callao, 2 9 13
Piræus, 1 6
Callao, 7 8 38

Aluminium Sulphate—
Bilbao, 1 t. 4 c. £6

Ammonia—
Gd. Canary, 7 c £16
New York, 1 cs. 7
Cabedello, 3 7

Ammonia (Anhydrous)—
Calcutta, 19 c. £224

Ammonium Carbonate—
Galveston, 1 cs. £1
Oporto, 7 c. 10
Sydney, 10 18
Marseilles, 17 30
Bremen, 2 t. 68
Tampico, 7 13
Rouen, 2 9 73
B. Ayres, 12 18
Barcelona, 1 5 42

Ammonium Chloride—
Brisbane, 2 t £60

Ammonium Muriate—
Piræus, 1 t. 11 c. £35
Volo, 2 9 53
Gythion, 3 3
Bilbao, 2 1 42
Catacolo, 4 4
Melbourne, 19 25
Stockholm, 14 4 298
New York, 1 35
Vera Cruz, 10 16
Venice, 19 19
Antwerp, 13 15
Alexandria, 2 10 81
Axim, 1 1
Patras, 4 4
Smyrna, 10 11
Rotterdam, 2 2 29
Yokohama, 4 7 98

Ammonium Sulphate—
Amsterdam, 10 t. £120
Gandia, 100 1,200
Valencia, 186 10 c 2,228
Newport N., 20 9 240
La Pallice, 50 612
Las Palmas, 24 17 424
Teneriffe, 1 4 15
Kobe, 69 14 878
Las Palmas, 26 17 449
Colombo, 25 3 300
New York, 35 409
Yokohama, 50 5 606
Baltimore, 15 2 180

Arsenic—
Hiogo, 1 t. £28
B. Ayres, 19 4 c. 543
Ceara, 4 8

Basic Slag—
Bilbao, 20 t. £30
Oporto, 58 12 c. 90

Bleaching Powder—
Boston, 538 cks.
Canada, 82
Portland, 68
Calcutta, 431 dms.
Sydney, 69
Tampico, 94

Bone—
Dunkirk, 14 t. 13 c. £122

Boracic Acid—
Dunkirk, 12 c £16

Borax—
Santos, 12 c £10
Tampico, 1 t. 15
Progresso, 4 4
Havana, 2 30
Matanzas, 1 19 30
Piræus, 10 8
Lima, 2 2
Galveston, 1 kg. 1
Constanti'ple, 1 18
Townsville, 1 17
Cienfuegos, 9 4 146

Calcium Carbide—
Manilla, 12 t. 15 c. £50
Vera Cruz, 19 c. £3

Calcium Chloride—
Hamburg, 1 t. 6 c. £4
E. London, 6 23
H. Kong, 10 23
Odessa, 20 82
Rouen, 5 5 10
Colombo, 2 4 5
Brisbane, 5 1 11
M. Video, 2 8 7
Rouen, 4 10 10
Calcutta, 20 4 56
Copenhagen, 1 11 4

Calcium Sulphydrate—
Ghent, 10 t. 9 c. £44
Antwerp, 15 5 43

Carbonic Acid Gas—
Lokoja, 1 c. £9

Caustic Potash—
N. Orleans, 2 t. £54
Newfairwater, 1 1 c. 32

Caustic Soda—
Acajutla, 12 dms.
Beira, 4 cs.
Brazil, 21 10
Catania, 88
Durban, 30
Fremantle, 11 120
Gelle, 341
Gijon, 16
Hamburg, 5
Hiogo, 115
Leghorn, 228
Lisbon, 30
Malaga, 10 cks. 150
Messina, 101
Mexico, 58
M. Video, 225
New Orleans, 25 brls. 25 bxs.
Penang, 60
Pto. Cabello, 25
Rosario, 20
St. John, 180
Samarang, 90
Sydney, 245
Venezuela, 10
Venice, 83
Bombay, 20
Calcutta, 10
Corfu, 20
Corunna, 20
Havana, 40
Lisbon, 306
Madras, 100
Newcastle, 117
New York, 50
Pt. Elizabeth, 20
Rio de Jan., 155
Rouen, 50
Christiania, 5

Chemicals (*otherwise undescribed*)
B. Ayres, 1,428 bgs. 94 trcs. £429
Barcelona, 19 c. 36
Fremantle, 40 cs. 320
Galveston, 20 t. 1,800
Larnaca, 1 brl. 3
Riga, 50 kgs. 70
Sydney, 130 15 37 213
Venice, 25 35
Brisbane, 114 4 126
Ronneby, 81 cks. 702
St. John, N.B., 50 213
Stettin, 6 54
Lisbon, 31 40
Para, 3 c. 2
Constanti'ple, 2 10 kgs. 22
Odessa, 80 115
Ancona, 3 brls. 11
Bahia, 6 c. 1 41
Bombay, 1 t. 2 10 441
Calcutta, 248 hf-trcs. 1,072 slabs. 227

China Clay—
Lisbon, 10 cs.
Baltimore, 23 t. 5 c.
Montreal, 180 cks.
Vera Cruz, 40
Boston, 629
Messina, 24
New York, 395
Portland, 100

Chrome Acetate—
Rio de Jan., 8 cks.

Citric Acid—
Cologne, 1 c. £11

Coal Products—
Anthracene
Kobe, 1 cs.
Aniline Colours
Bombay, 10 kgs.

Coal Products—
Aniline Dye
Barcelona, 10 bgs.
Aniline Salts
Madras, 1 t. 5 c. £66
Bombay, 3 3 182
Rangoon, 5 15
Carbolic Acid
Dobo, 1 dm. £1
Carbolic Acid (Crude)
Rotterdam, 3 t. 10 c. £246
CarbolicAcid (Fluid)
New York, 3 t. £160
Carbolic Acid (Solid)
New York, 20 t. 2 c. £1,126
Toronto, 10 25
Creosote
N. Orleans, 100 cks.
Creosote Oil
Lisbon, 400 cks.
Creosote Salts
Philadelphia, 87 t. 2 c. £145

Cobalt Ore—
Hamburg, 28 t. 11 c.

Colours—
Bahai Blanca, 40 cs.
Baltimore, 32 cks.
Manaos, 20 brls.
Manilla, 21 kgs.
New York, 6

Copperas—
Rio de Jan., 2 t. 10 c. £5
Orucas, 5 2
Bombay, 15 30
Teneriffe, 3 10

Copper Sulphate—
Libau, 4 t. 18 c. £103
B. Ayres, 26 11 615
Alexandria, 1 22
Lisbon, 4 19 117
Pernambuco, 5 6
Rouen, 4 17 98
Bombay, 10 11
Karachi, 4 16 102
Almeria, 18 20
Tampico, 20 418
Tarragona, 2 1 43
Malaga, 1 19 41
Alicante, 1 18 40
Samarang, 19 30
Sourabaya, 11 18
Barcelona, 11 6 242
Antwerp, 1 23
Sydney, 10 236
Gothenburg, 3 66
Rotterdam, 4 18 101
Rouen, 14 18 350
Odessa, 16 1 393
Adelaide, 10 293
Sydney, 10 251
Vancouver, 15 16 354

Cream of Tartar—
Para, 1 c. £7

Cottonseed Oil—
Assinie, 2 brls.
Nantes, 50
Bathurst, 125
Bordeaux, 60
Dakar, 69
Rangoon, 40
Rufisque, 64
Salonica, 30

Disinfectants—
Calcutta, 200 kgs. 1,560 dms. 5 cks. £181
S. Leone, 1 cs. 81
Uitenhage, 5 t. 28
Colombo, 2 5
Townsville, 5 6
C. Town, 15
Bombay, 2 18 c. 17
Genoa, 4 17 70
Antwerp, 1 1 c. 24
Quitta, 1 3
Hf. Assinie, 1 2
Calcutta, 360 dms. 85
Sekondi, 15 5
Natal, 170 15 50
Sydney, 4 19
Fremantle, 4 pks. 5

Dried Blood—
Colombo, 20 t. £180
Teneriffe, 3 6 c. 8
Colombo, 14 12 164

Dyestuffs—
Tannin Extract
Brindisi, 4 cks.
Gothenburg, 31
Riga, 20
Santos, 5
Boston, 150 brls.

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Ferro Manganese—
Antwerp, 170 t.
Baltimore, 25
Bilbao, 60
N. Orleans, 250
Phila'phia, 350
Rotterdam, 10
Shanghai, 30

Fertiliser—
Baltimore, 197 t. 10 c. £681
New York, 198 4 681

Glucose—
C. Town, 1 t. 5 c. £26

Glue—
Manilla, 13 cs.
Nagasaki, 2
New York, 30 bgs.
Shanghai, 59
Barcelona, 16 cks.
Ching Wang Tao, 2

Glue Stock—
Boston, 84 brls.
New York, 40 bls.

Glycerine—
Leghorn, 5 c. £15
Odense, 1 t. 18 87
Hiogo, 9 17 423
Lisbon, 8 18
Mossel Bay, 4 12
Rouen, 6 287
Delagoa Bay, 45 2,160
Victoria, 24 12 1,140
Shanghai, 5 2 264

Lead Nitrate—
New York, 5 t. 5 c. £125

Linseed Oil—
Accra, 10 dms.
Bahia Blanca, 25
Beyrout, 19 brls.
B. Ayres, 150
Genoa, 35
Havana, 3
Las Palmas, 3
Manaos, 6 35
Manilla, 250
Para, 24 4 cs.
Salaverry, 120 dms.
Valparaiso, 210
Alexandria, 127
Antofagasta, 40 cs.
Benguela, 5
Cabedello, 10 30
Colon, 20
Piræus, 20
St. Antoniodo Z., 15
Santiago de Cuba, 25
Teneriffe, 2
Trinidad, 2
Kingston, 260
Varna, 16
Vera Cruz, 10

Litharge—
Bilbao, 2 cks.

Magnesia—
Oporto, 1 trc. £3
Trieste, 3 c. 12

Magnesia (Calcined)—
St. Johns, N'fld., 10 c. £24
Rio de Jan., 2 4

Magnesite (Calcined)—
Fremantle, 5 t. £88

Magnesium Carbonate—
Tampico, 1 t. 5 c. £32
Galveston, 3 7
Havre, 1 18 35
Alicante, 2 10 44

Magnesium Chloride—
Smyrna, 2 t. 1 c. £8
New York, 20 3 54
Talcahuano, 10 2

Manganese Peroxide—
Bilbao, 7 c. £3

Manure—
Las Palmas, 4 t. £50
Patras, 25 3 c. 145
New York, 75 290

Mineral White—
Vera Cruz, 120 cks.

Muriatic Acid—
Manaos, 3 c. £7

Paraffin Wax—
Ancona, 60 pks.
Barcelona, 51 bgs.
Brindisi, 160
Kingston, 15 brls.
Palermo, 7 cs.
Trieste, 10
Lisbon, 10

Phosphorus—
Kobe, 40 cs.

Plumbago—
Valencia, 2 cks.

Potassium Bichromate—
Calcutta, 5 c. £8
Salonica, 7 12
Adelaide, 1 2
Halifax, 1 t. 2 34
B. Ayres, 2 19 89
Vera Cruz, 4 5 131

Potassium Carbonate—
Calcutta, 7 c. £10

Potassium Chlorate—
Tokio, 25 t. £750
Tampico, 5 150
Oporto, 4 18 c. 147
Pernambuco, 2 10 62
New York, 1 30
Antwerp, 5 123
Stettin, 5 123
Riga, 10 300
Malmo, 2 10 75
Copenhagen, 1 30
Kalmar, 6 176
Konigsberg, 2 60
Rio de Jan., 12 4 366
Piræus, 10 15

Potassium Prussiate—
Genoa, 14 c. £41

Red Lead—
Kingston, 1 ck.
Manilla, 23 brls. 800 kgs.
Shanghai, 70

Salammoniac—
Piræus, 2 c. £4
Antwerp, 6 12
Trebizonde, 2 brls. 8
Sayada, 4 8
Bombay, 2 t. 5 90
Varna, 10 19
Copenhagen, 11 23

Salt—
Antwerp, 195 t.
Barbadoes, 26 15 c.
Beira, 5
B. Ayres, 4 17
Burutu, 270
C. Town, 17 17 100 cs.
Conakry, 50
Durban, 306 9
Gefle, 100
Gibraltar, 50
Manaos, 500
Matadi, 15
N. Orleans, 800
Rotterdam, 400
S. Leone, 100
Kingston, 21
La Libertad, 12
Baltimore, 250
Calabar, 205 5
Calcutta, 5,212
Catania, 50 hf.-brls.
Duala, 239
Gd. Bassam, 34
New York, 115
Pt. Elizabeth, 18
St. Johns, 50
Trinidad, 12 10 c.
S. Leone, 17
Benin, 22 1
Genoa, 369 cks.
Hamburg, 20 5

Saltpetre—
Dakar, 1 kg. £2
Pt. Madryn, 2 c. 3

Sheep Dip—
Rio Gallegos, 30 t. 14 c. £613
C. Town, 1 8 70
Algoa Bay, 11 18 297
M. Video, 8 18 160
Varna, 17 26
Natal, 15 29
Delagoa Bay, 1 5 47
C. Town, 35 cks. 70
E. London, 1 8 29
B. Ayres, 42 3 1,146

Soap—
Accra, 295 bxs.
Addah, 270
Antofagasta, 125 pks.
Austria, 25 cs.
Barbadoes, 3
Bayin, 50
Berracoe, 25
Bombay, 4,549 784
Burutu, 20
Calabar, 12
Callao, 12
Cameroons, 100
Candia, 22
Colombo, 59
Copenhagen, 75
Duala, 10 1,031
Gibraltar, 25

Soap—
Hf. Jack, 100 bxs.
Hamburg, 20
Havre, 15 cs.
H. Kong, 10
Kobe, 40
Lagos, 50
Lyttelton, 25
Madeira, 5 341
Madras, 475 25
Malta, 7 pks. 90 76
Manilla, 1 1 crt.
Melbourne, 2
Mexico, 320 bxs.
New York, 6 brls.
Pt. Madryn, 264 cs.
Pto. Barrios, 50
Rangoon, 358 1,258
St. Johns, 1,742
Sassandra, 25 bdls. 35
Sekondi, 49 724
Sherbro, 6 100
Singapore, 40
Sulina, 11
Tangiers, 34
Teneriffe, 1,076
Tetuan, 25
Valparaiso, 5 cks.
Varna, 30
Alexandria, 168 175
Anamaboe, 100
Antwerp, 25
Attuaboe, 100
Axim, 200
Bahamas, 55
Bangkok, 850
Bathurst, 8 bdls. 43
Beira, 50 100
Benin, 250
Boma, 103
Bonny, 300
Calcutta, 23 150
Canada, 100
Cape Coast, 200
Cape Town, 16 5 851
Ching Wang Tao, 22
Colon, 25
Delagoa Bay, 475
Dixcove, 635
Durban, 486 120
Elmina, 100
Gefle, 26
Germany, 20
Gibraltar, 400
Guayaquil, 130
Guernsey, 26
Hf. Assinie, 150
Havana, 50
Karachi, 400
Kingston, 2 bdls. 2,255
Landana, 50
Las Palmas, 941
Matadi, 130
Melilla, 340
Monrovia, 14
Pt. Elizabeth, 180
Porto Novo, 50
Rotterdam, 1,020
St. John, 2
Saltpond, 200
Sapeli, 500
Shanghai, 30 brls.
S. Leone, 46 t. 17 c.
Surinam, 50
Taltal, 65 pks.
Tanga, 125 bdls.
Thysville, 20
Tumaco, 150 cs.
Tunis, 19
Warri, 400
Zanzibar, 125

Soda Ash—
Calcutta, 4 cks. 1,000 bgs.
Candia, 350
Christiania, 100
Constantinople, 100
Genoa, 1,070
Hiogo, 350
Las Palmas, 26
Rotterdam, 222 brls.
St. John, 216
Smyrna, 150
Venice, 168 400
Barcelona, 60 100 dms.
Boston, 40
C. Town, 37
Corfu, 50
Oporto, 10 4
Pto. Cabello, 15
St. Johns, 100 bgs.

Soda Crystals—
Bombay, 20 kgs.
Lisbon, 10 brls.
Pisagua, 30
Sousse, 10
C. Town, 120

Sodium Bicarbonate—
Bombay, 112 kgs.
Genoa, 90
Gibraltar, 20
New York, 25
St. John, 250
Sngapore, 14
Tanga, 15
Venice, 29
Madras, 20 bgs. 250
Lisbon, 100
Calcutta, 500
C. Town 1
E. London, 40
Kobe, 688
Smyrna, 50

Sodium Carbonate—
Amsterdam, 60 bls. 180 bgs.
Cabedello, 6 cks.

Sodium Cyanide—
Panama, 45 cs.

Sodium Hyposulphite—
Portland, 25 brls.

Sodium Nitrate—
New York, 20 cks.

Sodium Prussiate—
New York, 74 cks.

Sodium Silicate—
Durban, 5 cs.
Fremantle, 67 pks.
Mexico, 200 bgs.
Portland, 200 cks.
Valencia, 75
Boston, 50
Lisbon, 182
M. Video, 20 brls. 2 dms.
Piræus, 123 cks.
Sydney, 31 brls.
Tripoli, 120

Sodium Sulphate (Glauber's Salts)—
Sydney, 100 kgs.

Sodium Sulphide—
Galatz, 1 t. £8

Stearine—
Hamburg, 29 trcs.

Sulphur—
Las Palmas, 4 t. 13 c. £34
Norrkoping, 107 482
E. London, 6 69
C. Town, 4 19 50
Barbadoes, 3 11 21

Sulphuric Acid—
Iquitos, 2 c. £2
Maranham, 2 cs. 2

Superphosphate—
Malaga, 297 t. £881
Teneriffe, 7 17 c. 25
Las Palmas, 2 7

Tallow—
Bilbao, 2 pps.
Bombay, 3 cs.
Calcutta, 10 brls.
Genoa, 29
Bombay, 43
Fiume, 60
Corunna, 1
Gijon, 18
Messina, 12

Tannic Acid—
Bahia, 4 cks.

Tartaric Acid—
Valparaiso, 1 ck.

Tin Ore—
Hamburg, 8 t. 15 c.

Turpentine—
Accra, 10 dms.
Manaos, 5 cks.
Antofagasta, 20 cs.
Las Palmas, 10 tins
Opobo, 5 dms.
Singapore, 35
Valparaiso, 40
Varna, 3 brls.

White Lead—
Bahia Blanca, 10 cks.
Barbadoes, 28 kgs.
B. Ayres, 194 brls.
M. Video, 50 cs.
Sekondi, 160

Wolfram Ore—
Hamburg, 2 t. 3 c.

Zinc Ashes—
Rotterdam, 53 t.

Zinc Chloride—
B. Ayres, 1 t. 3 c. £20

Zinc Muriate—
Bombay, 1 t. 2 c. £13

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MANCHESTER.

Week ending December 11.

Albumen—
Germany, 8 cs.
Calcium Sulphate—
Antwerp, 100 brls.
Caustic Potash—
Djibouti, 10 brls.
Caustic Soda—
Djibouti, 20 dms.
Chemicals (*otherwise undescribed*)
Bombay, 27 brls.
Coal Products—
Aniline Colours
Ghent, 5 kgs.
Hamburg, 26
Benzol
Treport, 32 brls.
Pitch
Cette, 2,265 t.
Tar Oil
Christiania, 2 cks.
Hamburg, 10 dms.
Tar Salts
Christiania, 20 bgs.
Hamburg, 304
Colours—
Boston, 22 cks.
Disinfectants—
Bombay, 20 cks. 145 dms.
Glue—
Antwerp, 6 cks.
Boston, 1
Ghent, 4
Glycerine—
Philadelphia, 202 dms.
Salt—
Dunkirk, 10 bgs.
Soap—
Bombay, 10 cs.
Sodium Sulphate (Glauber's Salt)—
Bombay, 60 bgs.
Stearine—
Antwerp, 30 brls.
Ultramarine—
Bombay, 1 ck.
Zinc Ashes—
Germany, 11 t. 8 c.
Zinc Chloride—
Bombay, 25 cks.

HULL.

Week ending December 7.

Ammonium Sulphate—
Genoa, 1,700 bgs.
Italy, 100
Marseilles, 100
Venice, 100
Antimony—
New York, 150 cks.
Chemicals (*otherwise undescribed*)
Alexandria, 123 cks.
Antwerp, 7 6 cs. 4 hds.
Bremen, 5
33 1,202 slbs.
Christiania, 450 bgs.
Christiansund, 1
Danzig, 16 40
Drontheim, 10
566
G'thenb'rg { 72 cs.
Hamburg, 31 26
Helsingfors, 1
Libau, 14 20
New York, 275 50 dms.
Naples, 11
Rotterdam, 8 10
35
Stettin, { 500 bgs.
Coal Products—
Pitch
Antwerp, 337 t.
Zeebruge, 950
Leghorn, 253 5 c.
Marseilles, 200
Hamburg, 3 cks.
New York, 35
Tar
Bergen, 5 cks.
Ghent, 24
Hamburg, 8
Cottonseed Oil—
Antwerp, 76 t. 5 c.
Amsterdam, 12 14
Bremen, 31 9
Drontheim, 14
Dunkirk, 5 8
Cottonseed Oil—
Danzig, 6 t. 4 c.
Gothenburg, 5 2
Hamburg, 23 11
Harlingen, 2 1
Konigsberg, 9 1
Rotterdam, 89 8
Stettin, 11 14
Ferro Manganese—
Dunkirk, 10 t.
Glue—
Drontheim, 2 bgs.
New York, 34 cks.
Linseed Oil—
Amsterdam, 1 t. 19 c.
Christiania, 5 1
Ch'tiansand, 2 1
Drontheim, 3
Dunkirk, 6 15
Hamburg, 2 8
Manure—
Hamburg, 431 bgs.
Manure, 120
Mineral White—
Naples, 1 bskt.
Molasses—
Christiansund, 3 brls.
Drontheim, 71 cks.
Phosphate—
Copenhagen, 19 t. 14 c.
Nantes, 9,135 bgs.
Venice, 202 10 c.
Salt—
Antwerp, 100 cs.
Drontheim, 8
Gothenburg, 25
Copenhagen, 20
Stockholm, 12
Starch—
Bergen, 10 bgs.
Drontheim, 10 cs.
Gothenburg, 11
Tallow—
Genoa, 26 cks.
Marseilles, 37
Stockholm, 35
Turpentine—
Antwerp, 6 cks.
Amsterdam, 2
Christiania, 20
Hamburg, 60
Wax—
Libau, 54 bgs.

GLASGOW

Week ending December 12.

Acetate of Lime—
Rio de Jan., 2 t. 8 c. 3 q.
Alum—
Christiania, 1 t. 2 c. 2 q.
Alumina—
Bergen, 130 t.
Alumina Sulpho-cyanide—
Rio de Jan., £21
Ammonium Sulphate—
Kobe, 353 t. 5 c. 3 q.
Osaka, 100 18 1
Yokohama, 548 2
Granville, 199 5 2
U.S.A., 102 8
Nantes, 10
Boracic Acid—
Rotterdam, 19 c.
Borax—
Helsingfors, 4 t. 15 c.
Chemicals (*otherwise undescribed*)
Hiogo, £25
Kobe, 114
Yokohama, 123
Delagoa Bay, 228
Montreal, 126
Rangoon, 23
Coal Products—
Creosote Oil
Helsingfors, 318 t. 12 c.
Malta, £1,480
Pitch
Chantenay, £2,145
Dieppe, 850 t.
Italy, 997
Christiania, 2 4 c.
Oporto, 56
Tar
Calcutta, £175
Straits, 95
Colombo, 120
Dextrine—
Italy, 2 t. 10 c.
Dried Blood—
Nantes, 15 t.
Dyestuffs (*otherwise undescribed*)—
Sweden, £190
Dyestuffs—
Tanners Extract
Halifax, £140
Farina—
Serampore, 2 t.
Fish Oil—
Calcutta, £250
Belgium, 238
Genoa, 678
Italy, 1,480
Gelatine—
U.S.A., 307 t.
Glue—
Rangoon, 1 t. 13 c.
Linseed Oil—
Algoa Bay, 15 c. 1 q.
Rangoon, 1 t. 1
Magnesium Sulphate—
Rio de Jan., 14 t. 10 c.
Manure—
Hiogo, 93 t. 1 c.
Oleine—
Rio de Jan., £49
Oxalic Acid—
Belgium, £42
Paraffin Wax—
Rio de Jan., 17 t. 10 c. 2 q.
Santos, 3 11 2
Helsingfors, 9 17 1
Bordeaux, 8 11
Boston, 15 16 1
U.S.A., 5
Potassium Bichromate—
Rio de Jan., 16 c.
Antwerp, 3 t. 4 2 q.
Italy, 4 18 1
Madras, 1 2
Potassium Cyanide—
Hiogo, £196
Rio de Jan., 10 t. 10 c.
Red Lead—
Rangoon, 1 t. 2 c. 2 q.
Rosin Oil—
Sao Paulo, £48
Soap—
Algoa Bay, 2 t. 4 c. 2 q.
E. London, 11 3
Shanghai, 9 2
Calcutta, 2
Sodium Bichromate—
Italy, 4 t. 9 c. 2 q.
Rotterdam, 29 2
Sodium Cyanide—
Beira, £292
Delagoa Bay, 2,162
Sodium Sulphate—
Halmstadt, 190 t.
Starch—
Rio de Jan., £113
Genoa, 94
Sulphocyanide of Lime—
Rio de Jan., £40
Sulphuric Acid—
Colombo, £22
Tartaric Acid—
Cape Town, £22
Tin Crystals—
Rio de Jan., £25
White Lead—
Rangoon, 10 t. 9 c. 2 q.
Delagoa Bay, 2
P. Said, 1
Yellow Prussiate—
U.S.A., 1 t. 15 c. 2 q.
Zinc White
Madras, 6 t. 15 c.

TYNE.

Week ending December 7.

Antimony (Regulus)—
Hamburg, 5 t. 8 c.
Antwerp, 1 1 23 lb.
Rotterdam, 27 4
Barium Binoxide—
Genoa, 6 t. 18 c. 2 q. 10 lb.
Leghorn, 69 9 1 9
Bleaching Powder—
Amsterdam, 5 t. 2 c. 2 q. 5 lb.
Copenhagen, 23 5 26
Gothenburg, 29 18 2 24
Odense, 10 2 2 4
Caustic Soda—
Stavanger, 11 t. 2 q. 4 lb.
Genoa, 118 4 1 4
Leghorn, 10 3 14
Copenhagen, 11 12 16
Gothenburg, 15 1 3 4
Antwerp, 1 14 3 8
Chemicals (*otherwise undescribed*)
Helsingfors, 2 c. 1 q. 18 lb.
Coal Products—
Carbolic Acid (Solid)
Odense, 14 c. 2 q. 2 lb.
Pitch
Antwerp, 270 t. 13 c.
Ferro Manganese—
Genoa, 50 t.
Infusorial Earth—
Antwerp, 5 t.
Litharge—
Amsterdam, 11 c. 18 lb.
Gothenburg, 11 2 q. 9
Rotterdam, 11 t. 14 2 23
Magnesia—
Genoa, 2 t. 14 c. 2 q. 8 lb.
Manure—
San Fran'co, 608 t. 12 c. 1 q. 25 lb.
Red Lead—
Amsterdam, 11 c. 1 q. 2 lb.
Stavanger, 3 t. 8 1 20
Copenhagen, 6 15 1 27
Gothenburg, 6 14 1 15
Antwerp, 6 11 3 9
Soap—
Bergen, 3 t. 9 c. 3 q. 10 lb.
Soda—
Rotterdam, 4 t. 14 c. 3 q. 16 lb.
Soda Ash—
Amsterdam, 5 t. 1 c. 2 q. 17 lb.
Soda Crystals—
Rotterdam, 4 t. 16 c.
Sodium Sulphide—
Gothenburg, 1 t. 11 c. 3 q. 11 lb.
Sulphur—
Gothenburg, 10 t.
Wax (Mineral)—
Stavanger, 10 c.
White Lead—
Copenhagen, 1 t. 2 c. 1 q. 1 lb.
Zinc Ore—
Antwerp, 98 t. 15 c.

GOOLE.

Week ending December 7.

Chemicals (*otherwise undescribed*)
Amsterdam, 33 cks.
Boulogne, 3
Antwerp, 12 3 dms.
Hamburg, 11
Rotterdam, 88 21
Ghent, 10
Coal Products (*otherwise undes.*)—
Amsterdam, 381 cks.
Delfzyl, 232
Boulogne, 100
Antwerp, 1
Hamburg, 1,214 bgs. 25 dms.
Rotterdam, 2
Coal Products
Benzol
Rotterdam, 125 cks.
Pitch
Antwerp, 1,032 t.
Colours—
Antwerp, 15 cks.
Boulogne { 17 34 cs.
{ 100 bgs.
Ghent, 2 cks.
Hamburg, 2
Dyestuffs (*otherwise undescribed*)
Boulogne, 7 cks.
Rotterdam, 20 1 cs.
Manure—
Boulogne, 163 bgs.
Wax—
Boulogne, 10 cs.

GRIMSBY.

Week ending December 4.

Chemicals (*otherwise undescribed*)
Hamburg, 53 cks.
Malmo, 25
Chalk—
Hamburg, 4 cks.
Manure—
Hamburg, 801 bgs.

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PRICES CURRENT.

FRIDAY, December 20, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.	
Acids :—					
* Acetic 25% and 40%	per cwt.	9/-	&	13/-	
* ,, Glacial	,,		39/-		
Arsenic S.G. 2,000°	,,		31/-		
* Fluoric	per lb.	0	0	4¾	
* Muriatic (Tower Salts), 30° Tw.	per bottle		1/1		
* ,, (Cylinder), 30° Tw.	,,	0	2	9	
* Nitric 80° Tw.	per ton	14	15	0	
* Nitrous	nett per cwt.	0	18	6	
Oxalic	per lb.	0	0	3¾	
Phosphoric, 1750°	,,	0	0	10½	
Picric	,,	0	0	11	
* Sulphuric (fuming 70%)	per ton	6	0	0	
* ,, (Pyrites, 168°)	,,	3	2	6	
* ,, (,, 150°)	,,		30/-		
* ,, (free from arsenic, 145°)	,,		36/-		
* Sulphurous (solution) S.G. 1025	,,	3	0	0	
Tannic	per lb.	0	1	3	
Tartaric	,,	0	0	10¼	
*Acetone	per ton	80	0	0	
Arsenic, white powdered	nett ,,	26	10	0	
*Alum, loose lump (delivered)	,,	5	12	6	
Alumina Sulphate (pure)	,,	4	7	6	
Aluminoferric (in slabs)	,,	2	12	6	
Aluminium (Ingot metal 98/99%)	nett ,,	106	0	0	
*Ammonia, Anhydrous	per lb.	0	1	1	
* ,, .880	per ton	24	0	0	
* ,, .920	,,	13	0	0	
,, Carbonate	per lb.	0	0	3½	
,, Muriate (grey)	per ton	25	0	0	
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/-	&	40/-	
,, Nitrate	per ton	36	0	0	
,, Phosphate	,,	38	0	0	
,, Sulphate (grey) London	,,	11	13	9	
,, ,, ,, Hull	,,	11	15	0	
,, ,, ,, Manchester	,,	11	15	0	
*Aniline Oil (pure)	per lb.	0	0	5½	
Aniline Salt ,,	,,	0	0	4½	
Antimony	per ton	34	0	0	
,, (tartar emetic) 43/44%	per lb.	0	0	9½	
,, (golden sulphide)	,,	0	1	3	
Barium Chloride	per ton	7	5	0	
,, Carbonate (native). 92/94%	,,	5	0	0	
,, Sulphate (native levigated)	,,	45/-	to	65/-	
*Bisulphide of Carbon	,,	18	10	0	
Bleaching Powder, 35%	nett ,,	4	7	6	
* ,, Liquor, 7%	,,	2	0	0	
Chromium Acetate (powder)	per lb.	0	0	5¾	
Calcium Chloride	per ton	2	10	0	
China Clay (at Runcorn), in bulk	,,	20/-	to	27/6	
Coal Tar Products and Dyes :—					
Alizarine (artificial). 20%	nett per lb.	0	0	7	
Magenta	,,	0	2	3	
Anthracene, 40-45% A, f.o.b. L'don, per unit, per cwt.		1½d.	to	1¾	
Benzol, 90's	per gallon	0	0	8½	
,, 50/90	,,	0	0	8¼	
Carbolic Acid (crude 60°)	,,	0	1	8	
,, (crystallised 40°)	per lb.	0	0	5⅛	
,, (liquid 95/97%)	per gallon	0	1	1	
* Creosote (ordinary), naked	,,	0	0	2¾	
* ,, (filtered for Lucigen light)	,,	0	0	3¼	
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½	
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0	
* Pitch, f.o.b. Liverpool or Garston	,,	1	1	0	
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3	
Copper	per ton	59	0	0	
,, Sulphate	,,	22	5	0	
,, Oxide (copper scales)	,,	54	0	0	
*Glycerine (crude), 80%	,,	37	10	0	
* ,, (distilled S.G. 1260°)	,,	61	10	0	
Iodine	nett per oz.	0	0	6	
*Iron Sulphate (copperas)	per ton	1	12	6	
,, Sulphide	,,	3	10	0	
Lead (sheet)	,,	16	0	0	
,, Litharge Flake (ex ship)	,,	17	15	0	
,, Acetate (white) ,,	,,	28	15	0	
,, ,, (brown) ,,	,,	25	0	0	
,, Carbonate (white lead), pure	,,	21	10	0	
,, Nitrate	,,	32	0	0	
Lime, Acetate (brown) (ex ship)	per ton	7	15	0	
,, ,, (grey) 80%	,,	11	10	0	
Magnesium (ribbon and wire)	per lb.	1	0	0	
,, Chloride	per ton	3	7	6	
,, Carbonate	per cwt.	1	17	6	
,, Calcined Magnesia	per ton	18	0	0	
,, Sulphate (Epsom Salts)	,,	3	0	0	*
Manganese, Sulphate,	,,	17	10	0	
,, Borate	per cwt.	2	2	6	
,, Ore, 70%	per ton	6	5	0	
Methylated Spirit, 64° (Industrial)	per gallon	0	1	8	*
Naphtha (Wood), Solvent	,,	0	2	4	*
,, ,, Miscible, 60° O.P.	,,	0	1	10	*
Oils :—					
Cottonseed	per ton	22	0	0	
Linseed	,,	22	5	0	
Stearine	,,	32	0	0	
Phosphorus (yellow)	per lb.	0	1	5	
,, (red)	,,	0	1	11	
Potassium, Bichromate	nett ,,	0	0	3½	
,, Carbonate, 90% (ex ship)	per ton	19	10	0	
,, Chlorate	per lb.	0	0	3½	
,, Cyanide, 98%	,,	0	0	8½	
,, Hydrate (Caustic Potash), 90%	per ton	25	10	0	
,, ,, ,, 75/80%	,,	21	0	0	
,, Potash Hydrate Liquid, 50%	,,	14	10	0	*
,, Nitrate (refined)	,,	23	10	0	
,, Permanganate (small crystals)	per cwt.		36/-		
,, Prussiate (yellow)	per lb.	0	0	5½	
,, Sulphate, 90% (ex ship)	per ton	9	15	0	
,, Muriate, 80% ,,	,,	9	0	0	
Silver (metal)	per oz.	0	2	1 1/16	
Sodium (metal)	per lb.	0	3	0	
,, Carb. (refined Soda-ash), 48%, nett	per ton f.o.r. w'ks.	5	15	0	
,, ,, (Caustic Soda-ash), 48% ,,	,, ,,	5	10	0	
,, ,, (Carb. Soda-ash), 48% ,,	,, ,,	5	10	0	
,, ,, (Alkali), 58% (bags) ,,	,, ,,	4	10	0	
,, ,, (Soda Crystals) (bags)	,, ,,	2	17	0	
,, Acetate (ex ship)	,, ,,	17	5	0	
,, Arseniate, 45%	,, ,,	22	0	0	
,, Borate (Borax), Crystals	,, ,,	16	0	0	
,, Bichromate	,, per lb.	0	0	3	
,, Cyanide (100% basis)	,, ,,	0	0	7½	
,, Chlorate	,, ,,	0	0	3½	
,, Hydrate (76% C. Soda) (f.o.b.) nett	per ton 10 ton lots	11	0	0	
,, ,, (74% C. Soda) ,, ,,	,, ,,	10	15	0	
,, ,, (70% C. Soda) ,, ,,	,, ,,	10	5	0	
,, ,, (60% C. Soda) ,, ,,	,, ,,	9	5	0	
,, ,, (pure liq. 90° Tw.) ,, ,,	,, ,,	4	15	0	
,, 77/78% powdered (99% hydrate)	per ton	12	10	0	
,, Bicarbonate (cwt. kegs)	,,	6	15	0	
,, Hyposulphite	,,	6	5	0	
,, Manganate, 25%	,,	20	0	0	*
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	4½	
,, Nitrite, 98%	per ton	29	10	0	
,, Phosphate	,,	9	5	0	
,, Prussiate	per lb.	0	0	3½	
,, Silicate (glass)	per ton	5	7	6	
,, ,, (liquid, 100° Tw.)	,,	3	15	0	
,, Stannate, 40%	per lb.	0	0	9	
,, Sulphate (Salt-cake)	per ton	2	2	6	*
,, ,, (Glauber's Salts)	,,	1	12	6	*
,, Sulphide (crystals)	,,	6	5	0	
,, Sulphite	,,	6	5	0	
Strontium Hydrate, 100%	,,	9	0	0	
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6¾	
,, Barium, 95%	,,	0	0	3½	
,, Potassium	,,	0	0	7	
Sulphur (Flowers)	per ton	6	10	0	
,, (Roll Brimstone)	,,	6	5	0	
,, Brimstone (Best thirds) (ex ship)	,,	4	12	6	*
Superphosphate of Lime (26%)	,,	2	10	0	
Tallow	,,	32	10	0	
Tin Crystals	per lb.	0	0	9¼	
,, English Ingots	per ton	123	0	0	
Zinc (Spelter)	,,	20	5	0	
,, Chloride (solution, 100° Tw.)	,,	5	15	0	*
,, Sulphate, Crystal	,,	6	15	0	

*Packages extra, or returnable: Otherwise, prices usually include packages.

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THE

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AND

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CURRENT TOPICS.

BANKERS AND THE GOLD RESERVES.

IN a recent lecture before the Liverpool and District Bankers' Institute, on "The Depreciation of Securities in Relation to Gold," Mr. E. H. Holden, M.P., pointed out that bankers had, in consequence of the depreciation of securities, suffered greatly, but had shown a praiseworthy example by persistently writing these down in their balance-sheets to their market value. Speaking generally, and regarding the whole of the banks as one bank, the loans created the credits, with the exception of the gold that came into the country. "Taking this into consideration," said Mr. Holden, "every banker must make up his mind by what amount his credits are liable to be diminished, both in ordinary and extraordinary times. He should then keep that amount of available resource in gold, or in a means of obtaining the same."

Mr. Holden proceeded to deal with three classes of loans—commercial, international, and Stock Exchange. The first-named had increased rapidly during the last few years, and the increase had been much larger in countries with high tariffs, because high tariffs meant high prices, and in consequence of this large profits, large extensions, and a large increase of loans. That this was so had been proved by Lancashire, America, and Germany.

As regards international loans, almost all imports and exports were financed on borrowed resources. The foreign bill really effected a loan. The lecturer showed that according to Sauerbeck's numbers in 1895 food was presented by 63.8, while in 1907 it was represented by 72.2, and that materials were represented by 57 in 1895, while in 1907 they were represented by 84.1. Having given figures showing the increase in imports and exports between 1900 and 1906 of the United Kingdom, Germany, France, the United States, Canada, Belgium, and Holland, he said it might be assumed that the international loans of these countries had increased approximately £843,000,000. To carry all the loans of these countries the amount of gold in their national banks amounted, in 1900, to £288,000,000., and in 1906 to £366,000,000., an increase of £78,000,000. If these figures were regarded from the point of view as to what amount of loans ought to be carried on £288,000,000., and £366,000,000. of gold, taking the ratio at 15%, the former would carry £1,920,000,000., and the latter would carry £2,440,000,000. The increase of loans should, therefore, be £520,000,000., whereas they had increased £843,000,000.

As to Stock Exchange loans there had, of recent years, been an enormous increase of new issues of this class of security, and the increased prices of commodities and Stock Exchange securities were largely due to the increase of loans in America and Europe. A fall in prices had resulted in consequence of the curtailing of Stock Exchange loans,

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due to the excessive over-lending throughout the U.S.A.; when such a fall took place, investors sold, margins ran off, and brokers called for borrowers to take up their securities. Many were unable to do so, and the result was a general stampede and falling-off in prices.

Summing up his arguments, Mr. Holden said, "I have shown the appreciation and depreciation of American securities to be due to the increase and contraction of the loans. I have further shown that the depreciation of gilt-edged securities is due to the fall in the Bank of England reserves. If, then, we increase the actual available gold reserve from £15,000,000. in the Banking Department and £17,000,000. in the Issue department to £44,000,000. in the combined Department, we obtain a gold ratio of 55% as against a gold ratio of the Bank of France of 49%. The increased reserve would cause an appreciation in securities and a decrease in the bank rates. It has been urged that the expense of £275,000. per annum which would be incurred by the country in the repayment of the debt is too great, but the cost of this is infinitesimal compared with the loss sustained by the public through the depreciation of securities and the tax imposed on the trade and commerce of the country by the high rates of discount consequent on the low reserve. Touching the joint-stock banks, there can be no doubt that it is their duty to increase their gold reserves, and I think it is well known they are doing this, but I should like to suggest that the Board of Trade ask all bankers to supply them with balance-sheets, showing the amount of specie, Bank of England notes, balances with other banks, and balances at Bank of England which compose their reserves, and that the Board of Trade should issue a return showing these and other items of the balance-sheets in totals. If this be done, I venture to predict that the gold reserves would silently but effectively be increased."

CONCILIATION IN LABOUR DISPUTES.

In a recent issue we referred to the successful intervention by the President of the Board of Trade in the railway and cotton trade labour disputes. In this connection a recently issued report on the Rules of Voluntary Conciliation and Arbitration Boards and Joint Committees of the United Kingdom is of special interest. The formation, financial arrangements, methods of procedure, prevention of the stoppage of work, and the machinery provided to finally dispose of questions when Boards or Committees are unable to arrive at a satisfactory understanding, are all set forth. In an appendix to the report the various conciliatory agencies are classified with the methods adopted, such as a reference to the Board of Trade, or by submitting to the decision of a permanent neutral chairman.

The number of Boards and Committees engaged in settling disputes existing in various trades at the present moment is 194; and the number of workpeople involved in the disputes is calculated to be at least 1,250,000.

Almost invariably, friendly discussion between the respective representatives of the employers and employees of the wages questions and other grievances is now the recognised method of settling disputes. For instance, in the recent cotton trade labour trouble, conciliation was provided for in the famous "Brooklands Agreement," and in the engineering trades the "Terms of Settlement" provide conciliatory mediums for dealing with and settling all disputes by local and central conferences for nearly the whole of the United Kingdom.

The duties of the Conciliation and Arbitration Boards vary considerably. A few limit their operations to determining the general level of wages for the particular industry they control over a large area, without taking into account local questions; others deal only with controversies connected with individual works; others, again, take charge of the demarcation of work between separate trades; while the majority consider all questions, whether general or only affecting particular firms, and whether referring to wages or to other matters concerning employers and employees, within the scope of their own trade and area. If evidence were required of the value of the work accomplished by these Boards in preventing stoppage of work, ample proof is afforded by the following figures. Out of a total of 7,248 cases settled, by means of the intervention of Boards or Committees, in ten years, only 92 (approximately 1%) were preceded by the cessation of working operations. In the majority of cases, the rules provide that work shall not be stopped by either party until the Board have considered the disputed point; and some of the Boards emphatically decline to deal with the questions in dispute until operations have been resumed. Many of the Boards provide that their decisions, or the final awards of the arbitrators appointed by them, shall be regarded as final and binding upon both parties; and even go to the extent of inflicting a pecuniary penalty in the event of breach of agreement or award.

THE ROYAL COMMISSION ON SHIPPING RINGS.

At a recent meeting of the Royal Commission on Shipping Rings, Mr. John McLaren, a senior partner in the firm of J. and H. McLaren, general engineers, gave evidence on behalf of the Leeds Chamber of Commerce and the Agricultural Engineers' Association. He also spoke as an "aggrieved trader." His complaint was that shipping rates were too high, such rates being rendered possible by the combination of shipowners, who raised prices and stifled competition. Deferred rebate was one of the most powerful weapons of the "combines." He believed that companies could carry at much lower rates if it were not for the expense of running high-speed steamers for mails and passengers who benefited at the expense of the trader, who had to pay higher rates on his goods to supplement the inadequate fares and mail subsidies of the high-speed steamers. The rates to South America were 50% higher by the Conference steamers than any others; in some trades, unfortunately—New Zealand, for example—shippers were unable to take outside steamers, as the whole trade was under the control of the "ring."

In cases where deferred rebates existed, owners had no hesitation in taking advantage of the ignorance of shippers, who had no opportunity for judging whether they were getting the same treatment as their opponents. Foreigners frequently received preferential rates. The arbitrary policy of the "rings" was soon shown by the speedy manner in which an outside ship was squeezed off the berth; the alacrity with which rates were lowered in order to do this seemed to indicate that there was ample margin for an all-round reduction. The action of the "ring" amounted to nothing less than a restraint of trade. Shipowners ought to be limited and controlled in regard to their action. He recommended that the Government be asked to make the deferred rebate illegal.

Mr. E. B. Tredwen, who was recalled before the Commission, thought that where a rebate system was carried out wisely it was an advantage to British trade, and secured

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trade to British shippers and merchants. Mr. A. S. Gladstone considered that shipping "rings," with or without rebates, would be beneficial to trade so long as they gave the general body of shippers what they required —(1) an adequate service of steamers; (2) moderate freight rates; and (3) equal treatment to all shippers, large and small.

FOREIGN INVESTMENTS.

An agreement has been concluded between Great Britain and France for the suppression of fraudulent income and personal property returns in the two countries. More efficient guarantees for the recovery of succession duties are to be afforded, and, if necessary, of income tax also. According to the *Actien*, of Paris, the convention consists of four articles; in the first two it is stipulated that Great Britain and France shall communicate reciprocally copies of succession declarations made in the country in which the deceased person, whose estate is in question, resides. The third article provides that negotiations under the Convention shall be carried on directly between the Ministers of Finance of the two countries without the necessity of diplomatic intervention on the part of the respective Foreign Offices; the fourth article deals with the ratification of the Convention.

M. Jules Roche, interviewed by a representative of the *Liberte*, said this Agreement would be no more effective than that made with Belgium in 1843. To have the force of law it needed the ratification of Parliament; if that were given, French capital would leave English banking and seek an asylum elsewhere—probably in Belgium, a Belgian Minister having recently declared that his country would never enter into such undertakings with regard to French capital. The *Temps* is sceptical as to Great Britain's part in the Agreement. The *Journal des Debats* also has not much faith in Great Britain's subscription to such a measure. "France," it says, "would benefit by this exchange of fiscal methods much more than Great Britain, who would not venture upon a course which Belgium refused to take."

ACETIC ACID MANUFACTURE.

THE *Chemist and Druggist* says:—"Rumours are abroad of the intention of the Revenue authorities to permit the use of duty-free spirit for making acetic acid or 'white vinegar.' There is no doubt that a desire exists among producers of acetic acid to utilise alcohol, and it is probable that Somerset House has been approached on the subject. One point may be mentioned, as indicating the trend of official thought, and that is the subject of acetifying acohol from duty-free spirit was given as an examination test subject for certain official candidates aspiring to sit in high places at Somerset House. It appears to be not an unusual practice of the 'powers that be' to set their staff to discuss knotty and intricate fiscal problems that crop up from time to time with a view to seeing if it be possible to establish some *via media* whereby the interests of trade can be furthered without jeopardising those of the Revenue. If the question recently put to the official candidates has originated in the manner suggested, then it will serve to show that it lies still on the official anvil, and is being hammered at with a utilitarian view. Revenue authorities are slow to take action, especially in instances where trade expansion leads to new fields untrodden by the paths of experience. This question of relieving spirit from duty for the manufacture of acetic acid is a case in point. No doubt the utmost care and circumspection are demanded by the custodians of the Revenue, since concessions once granted become like the laws of the Medes and Persians—irrevocable. In discussing this question of alcohol oxidation the interests of both trade and revenue are intertwined, and in any request made by chemists and others for permission to receive duty-free spirit, the feasibility of the proposal is one of the features that must have presented itself to the judgment of applicants. Perhaps one of the best guides as to the practicability of the scheme is the procedure in Germany, although it by no means follows that the fiscal conditions of one country will apply to those of another. In Berlin duty-free alcohol is taken account of by an Excise officer, who sees it mixed with a specified quantity of acetic acid and removed to the percolating-vats. The high duty on spirits in the United Kingdom would undoubtedly compel a much closer official supervision than that existing in Germany, since the temptation to abstract would be correspondingly greater. If chemists were to devise spirit-oxidising plant which would prevent the abstraction of the dutiable article, the minds of the Revenue authorities would be satisfied. As about 30% of the spirit used in making acetic acid is wasted, closed vessels are as much to the manufacturer's interest as the desire of the Revenue. When it is considered that over 6,000,000 proof gals. of duty-free spirit is used annually in Germany for the production of 'white vinegar,' and that the vinegar export trade in the United Kingdom is a rapidly developing one, the great importance to the industrial classes of this country of securing the same kind of raw article is obvious. Seeing that the conversion of the spirit into acid is a matter of from three to four hours only, the process possesses irresistible charms to both capitalist and chemist."

CHEMICAL MANURES IN EGYPT.

THE total imports of artificial manures into Egypt in 1906 amounted to 12,725 tons, valued at £E122,709. These figures compare with 2,152 tons, valued at £E12,912. in 1902, while the figures for the first nine months of 1907 were 7,579 tons, valued at £E76,907. (£1 = £1 0s.6d.) The monthly *Journal* of the British Chamber of Commerce of Egypt observes that the Egyptian trade in artificial fertilisers has been increasing by leaps and bounds, and will undoubtedly continue to do so for some time to come. Statistics accompanying the article show the general advances which have taken place during the last few years. It is noteworthy that although the United Kingdom's share of the trade increased from 340 tons in 1902 to 1,811 tons in 1906, that of Belgium advanced still more rapidly, from 232 tons to 8,063 tons; whereas the United States, which was not in the market in the former year, sent 2,798 tons in 1906.

Apart from the influence of the Assouan Dam and other irrigation works in largely increasing the area of cultivable land, and so causing a greater demand for manures, the main reason for the recent rapid growth in the trade is the fact that the native is now endeavouring to grow cotton once every two years instead of once in three, and consequently finds the use of fertilisers to be essential. Prior to the introduction of artificial fertilisers, the credit for which is due almost entirely to the Khedivial Agricultural Society, the native mainly depended upon "Sabakh," that is to say, the remains of old buildings, villages, and cemeteries, for his manure. Such remains—generally in the form of small hills—were found all over the Delta, but they are gradually becoming appreciably scarcer, or too far away from the scenes of cultivation. Other native manures are river and canal mud, and stable refuse, but these, together with "Sabakh," are totally insufficient to meet the requirements of the country, and therefore chemical manure imports are likely to still further largely develop.

For cotton, the native usually puts on each feddan (a little more than an acre) 200 kilos. of superphosphates, and from 80 to 90 kilos. of nitrogenous fertilisers, of which about two-thirds are nitrate of soda and one-third sulphate of ammonia. Manures in these proportions will cost about £1. 16s. 11d. to

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£1. 17s. 11d., delivered to any railway station in Lower Egypt. For wheat, the cultivator uses from 90 to 100 kilos. of nitrate of soda per feddan. He can obtain this delivered to any station in Lower Egypt from £1. 3s. 7d. to £1. 4s. 7d. per feddan.

The prices of chemical manures vary considerably from time to time, but the following, which include packing in double sacks, may be taken as average rates:—

Nitrate of soda .. .. £12. 10s. per ton, c.i.f. Alexandria.
Sulphate of ammonia.. £13. to £13. 5s. ,, ,, ,,
Superphosphates .. £3. 2s. to £3. 6s. ,, ,,

Owing to the very small Egyptian demand prior to last year, it was found cheaper and more convenient to bring the nitrate of soda from Chili to Belgium, and then tranship to Alexandria, according to requirements. This largely accounts for the fact that in 1905 Belgium had practically the whole of the Egyptian trade. In 1906, the sales having increased so enormously, the Khedivial Agricultural Society of Cairo chartered two vessels and brought full cargoes (besides having part cargoes on other ships) direct from Chili to Alexandria, and the same process is being repeated this year. Belgium is the principal source of supply for superphosphates, the manures being actually prepared in that country. Glasgow also ships a few superphosphates, but Antwerp does nearly the whole of the trade. In the case of sulphate of ammonia, the main port of shipment is Glasgow, after which comes Antwerp.

Practically the only manures manufactured in Egypt are those turned out by the Cairo Sewage Transport Co., such as "Poudrette" and other sewage products. The company also works up various slaughter-house products, such as dried blood, powdered hoof, and horn and ground bones. When these were first put on the market some years ago the company had great difficulty in selling them, as the natives did not appreciate the value of artificial manures, and, moreover, were not in a good enough financial position to incur the necessary expense. The difficulties, however, have now been overcome, thanks to the work done by the Khedivial Agricultural Society in educating the natives in the use of fertilisers, and also to the fact that the fellaheen can now afford to pay for them.

The Khedivial Agricultural Society, of which mention has already been made, has interested itself in the distribution of chemical manures during the past six or seven years. With the object of assisting the Society in this work, the Government, between September and December, 1906, lent them £100,000. at 2% per annum interest.

It may be mentioned also, that the Egyptian Markets, Ltd., have recently entered into the trade of supplying the natives with artificial manures. The company, which was established in 1898, with a capital of £175,000., runs official markets in 120 centres in Egypt, and therefore possesses the necessary organisation for distributing the fertilisers direct to the Arabs.

The imports of chemical manures are allowed into the country duty free (the only other instance of free entry being books by parcel post) and special reduced rates are in force on the State railways for carriage into the interior. It will thus be seen that the Government is encouraging the native as far as possible to use chemical manures. There is no monopoly for the import of artificial fertilisers, and any manufacturer or merchant is thus able to engage in the trade.

TEBRAU JAHORE RUBBER SYNDICATE LTD.—Capital £30,000, in £1. shares. This syndicate has been formed to acquire and develop the estates of Tebrau, Johore, to acquire by purchase or lease, in the Malay Peninsula or elsewhere, estates on which rubber trees have been planted, or which may be suitable for the cultivation of rubber, and to carry on the business of manufacturers of and dealers in rubber, etc. The first directors are P. M. Matthew, F. W. Carter, and J. E. E. Corstorphine; qualification 500 shares; remuneration £175. per annum, divided. Registered office, 5, St. Andrew-square, Edinburgh.

CALCIUM CYANAMIDE.

THE *Engineering and Mining Journal* (New York) states that the American Cyanamide Company, of that city, intend to build a plant for the manufacture of calcium cyanamide at Muscle Shoals, on the Tennessee River in Northern Alabama. The initial capacity of the plant will be 40,000 tons per annum.

Our New York contemporary gives the following list of cyanamide works in course of construction in Europe:—

Name of Company.	Location of Works.	Annual Capacity in Tons.
North-western Cynnamid Company of London	Odde Norway	13 550
Ostdeutsche Kalkstickstoffwerke vom Berlin	Muhlthal. Prussia	3.300
Société Suiss Probera Azotati	Martigny Switzerland	4,400
Société Francais Pour Produits Azotati de Paris	Notre dame de Brianon, Savoy, France	13,200
Cyanid Gesellschaft vom Berlin	Trosberg, Bavaria	16,500
Società Italiana pel Carburo di Calcio di Roma	Calleestetti, Italy	13.750
Società Italiana pel Carburo di Calcio di Roma	Sebenico, Dalmatia. Austria	27 500
Società Italiana pel Carburo di Calcio di Roma	Almissa Dalmatia	50 000
San Marcel Compagana	Italy	8 250
Società Italiana per la Fabricazione di Produtti Azotati di Roma	Piana d'Orta, Italy	11.550
Società Italiana per la Fabricazione di Produtti Azotati di Roma	Fiume, Dalmatia	4 400

"The Società Generale per la Cianamide, of Rome, Italy, holds all patents covering the manufacture and use of the product, and has had an experimental plant in operation for the past three years. Licences for the manufacture of calcium cyanamide have been sold in all civilised countries, and plants with capacities of 40,000 and 50,000 tons per annum are projected in Europe.

"The tonnages indicated in the last column represent initial capacities; the ultimate capacities will be about twice the amounts shown. The plant at Piana d'Orta is now in operation, producing at the rate of 4,000 tons; the others will begin about January 1, 1908, or within a few months of that time."

THE BRITISH COLUMBIAN ZINC INDUSTRY.

THE Canadian Government recently issued a report of a Commission appointed to investigate the zinc resources of British Columbia. The chief conclusions of the Commission are, that although the zinc industry is yet in its infancy in British Columbia, it is capable of great development. While several of the mines now being worked are essentially zinc mines, there are some silver-lead mines in which zinc blende is found in considerable quantities. Until recently the zinc in the silver-lead ores was regarded as an impurity to be got rid of by the easiest and cheapest means possible. The recent increased demand for zinc has enhanced the value as a by-product of the zinc-blende, which was formerly a troublesome impurity. The Commission regards 15,000 tons of zinc ore of 50% grade as a liberal estimate of the present annual production of the Slocan district, and it is calculated that the Ainsworth district can produce 100 tons daily of 50% ore. There are many mines and prospects in other portions of the province which are supposed to carry zinc in paying quantities. A zinc smelter has been established at Frank, Alberta, the plant being close to a coal mine and on the route from the mines to the market. The large amount of fuel required in reducing zinc ore renders it necessary that coal shall be near the smelter. Coal can be delivered at the Frank smelter at less than $1. per ton.

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SOCIETY OF CHEMICAL INDUSTRY.

LONDON SECTION.

A MEETING of this Section was held at Burlington House on December 2, Mr. R. J. Friswell in the chair. The first paper, on "The Estimation of Naphthalene in Coal-Gas and Spent Oxide of Iron," was read by Mr. C. J. Dickenson-Gair. The methods of estimation given in the paper are as follows:—The Acetic Acid Method: 300 or 400 c.c. of acetic acid solution are placed in two Dreschel bottles coupled with a third bottle, containing picric acid solution, as a catch. About 10 cub. ft. of the coal-gas are passed through, and the contents of the bottles then mixed with 500 c.c. of strong picric acid solution. On agitating, pure naphthalene picrate separates out and is filtered. The precipitate is washed with N/40 picric acid solution, to free it from acetic acid, and N/10 NaOH is added, until there is an excess after boiling for ten minutes. The excess of soda is found by titration while hot, first with N/20 picric acid, and then with N/10 NaOH, using lacmoid indicator. From these figures the amount of N/10 NaOH used up in the reaction is found; each c.c. = ·197 grains naphthalene. The Reprecipitation Method: The test is commenced in a similar manner to Colman and Smith's, only picric acid solution being used. The mixture of naphthalene and naphthalene picrate is filtered off and transferred to a flask, 50 to 100 c.c. absolute alcohol being added. A clear yellow solution results. About 300c.c. concentrated picric acid solution are added, and on agitation pure naphthalene picrate separates out. The same procedure is subsequently followed, as in the acetic acid method, but the washing with picric acid is omitted. Experiments proved both methods to be perfectly reliable, and very rapid in execution. A modification of this test is made use of in estimating naphthalene in spent oxide of iron. Ten grammes of the undried oxide are mixed with 100 c.c. 80% alcohol; the flask is agitated, allowed to stand several hours, and the liquid filtered; 300 c.c. strong picric acid solution are then added to the filtrate and washings. On agitation, naphthalene picrate separates out, and is treated as in the reprecipitation method.

A "Note on the Influence of Formal on the Properties of Funtumia Elastica" was communicated by Dr. P. Schidrowitz and Mr. F. Kaye. The authors find that the rubber obtained from the latex treated by formal, although less elastic and resilient than that obtained by other means, was extraordinarily tough. They suggest that a rubber of this character might be particularly suitable for some purposes, *e.g.*, for the covers of motor tyres, where toughness is of relatively greater importance than resiliency, and that in the future it may be found desirable to use different methods of coagulation for the same latex, according to the purpose for which the rubber is intended.

Dr. J. Lewkowitsch read a paper on "Niam Fat." Niam fat was obtained from the seeds of *Lophira alata* Banks, a tree indigenous to Senegambia, Sierra Leone, and the Egyptian Soudan. The fat freed from extraneous matter forms 41% of the kernels. It is a soft, buttery mass, melting at 24° C., and is used by the natives for culinary purposes and as a hair oil. The following characteristics were determined in two specimens:—

	Fat extracted from kernels.	Fat prepared by natives.
Sp. gr. at 40° C. (water at 40° = 1)	0.9105	0.9063
Acid value	18.54	5.78
Saponification value	195.6	190.1
Unsaponifiable matter	1.49	1.38
Iodine value	68.4	78.72
Mean molecular weight of the fatty acids	283.7	
Solidifying point of the fatty acids	42.5° C.	

A paper by Mr. Francis Watts and Mr. H. A. Tempany, on "The Polarimetric Determination of Sucrose," was also read. The following is an abstract:—

(1.) *Effect of basic Lead Acetate on the Optical Activity of Sugar Solutions.*—In the polarimetric determination of sucrose in raw sugars, the most suitable and convenient method of defecation is by means of basic lead acetate. Formerly, solutions of the acetate were used, but it was shown that by this means errors of concentration were introduced, owing to the space taken up by the precipitate formed. Horne proposed the use of the anhydrous acetate in place of a solution, as almost removing this source of error, and in a former paper the authors supported this contention by further experimental work. But some investigators still maintain that there is a serious error in the polarimetric readings caused by the direct action of the basic acetate on the invert and non-sugars present. In the present paper it is shown that in ordinary raw sugars, if only slight excess of the basic acetate is used, the error is so small as to be negligible. If large excess is used the error becomes serious. The authors consider that the error in reading is due to the basic portion of the lead present, and that if acetic acid is added sufficient to just neutralise the basicity, the normal reading is restored. In the determination of molasses, however, the quantities of basic acetate required are so large that the error is considerable, and after partial clarification with anhydrous basic acetate the solution should be mixed with sulphur dioxide, which practically restores the normal rotation.

(2.) *The Effect of Clarification with Basic Lead Acetate on Cane Juice.*—In raw sugars clarified by basic acetate of lead, the primary precipitates contain usually from 50 to 60% of lead oxide, the basic acetate itself containing 81.4%. The clarified liquor almost always contains lead, but still generally gives a further light lemon-yellow coloured precipitate on the addition of more basic acetate. The authors find this precipitate to contain 81% of lead oxide and a very little organic matter which appears to be of a pectinous nature. They believe the lead present in the clarified juice to be due to traces of organic lead salts arising from the neutralisation of the basic lead by organic acids present in the sugars. The influence of these traces of lead salts in the clarified juices on the determination of invert by Fehling solution has been investigated, and it is found that this, though existent, is so slight as to be negligible unless large excess of basic oxide has been used.

NOTTINGHAM SECTION.

A meeting of this Section was held at University College, Nottingham, on December 18, Mr. O. Quibell being in the chair. Mr. S. R. Trotman, the Nottingham City Analyst, read two papers, the first one, "On the Analysis of Disinfectants containing Resin," dealt with experiments which showed that, in the presence of resins, the ordinary processes of estimating tar acids in disinfectants by distillation give results which are too high, owing to the resin acids being carried over with the phenol. The second paper dealt with "The Effects of the Soda Boil on Cotton." This gave details of experiments conducted to ascertain the correct lengths for loss in weight and alteration in counts in cotton yarn caused by the soap boil. A vote of thanks to the author terminated the proceedings.

THE GREAT CEMENT PROPRIETARY, LTD.—The report states that for the year ended September 30 last there is an excess of expenditure over receipts in Western Australia of £538. The expenditure in London was £124., and the interest on loans £1,479.

PRUSSIAN SCHOOLS.—The official journal for the Administration for Commerce and Trades publishes the following statistics concerning the technical public schools in Prussia:—During the winter half-year, 1906-07, there were 19 technical schools in Prussia giving public instruction in the manufacture of machinery and kindred lines, which were attended by 3,252 students. The 23 technical schools for the building trades had an attendance of 5,287 scholars; those teaching artistic trades and handicrafts had 4,118, and the 13 textile trade schools 1,783 scholars. In addition there were 1,408 public trade-finishing schools having 236,110 scholars, whose attendance was compulsory, and 85 similar schools where 20,390 voluntary scholars received instruction. Of the public commercial finishing schools 276 gave instruction to 31,194 male and female scholars, whose attendance was compulsory, and in 58 similar schools 7,737 voluntary scholars of both sexes took instruction. Some of the schools are conducted and supported entirely by the Government; others are carried on at the expense of cities, municipal and district communities, and receive an annual subvention from the Government. There are day and night and Sunday classes, so as to afford opportunity for instruction to those who cannot attend during daytime or on week days. Besides, there exist 409 technical schools, with 23,728 scholars, which are controlled and supported by industrial or commercial corporations or associations; also 42 technical schools, with 4,841 scholars, which are annexed to and supported by great manufacturing firms.

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Reports of Companies.

PACIFIC NITRATE CO.

The second annual meeting of this company was held last week. Mr. H. W. Morrison, who presided, in moving the adoption of the report and balance sheet, said he regretted that they were unable to show larger working profits. It was a consolation, however, to be able to assure them that the results in no way reflected upon the value of their property; they were entirely accounted for by the fact that they had had to erect and start working their oficinas under circumstances of great difficulty. Their troubles were of a temporary nature, and the directors had now been informed that for the most part they had been overcome. The main difficulty had been the question of water supply, which had curtailed the manufacture of nitrate. Their total production from their two oficinas had only amounted to 260,000 quintals, and when they took into consideration the fact that this small output had had to bear all the fixed charges, it could not be wondered at that the working profit was insignificant. The result for the month of September showed a very great improvement, and he felt convinced they had now turned the corner. They had produced 70,000 quintals of nitrate for the month at a good profit, and he was convinced they would continue to improve upon those results. Their agents assured them the water difficulty had now been practically overcome. Nothing had occurred to diminish their faith in the value of their property.—The motion for adoption was seconded and unanimously carried.

BRITISH WESTINGHOUSE ELECTRICAL COMPANY.

A meeting of debenture holders of the British Westinghouse Electrical Company was held last week, to pass resolutions empowering the postponement of the mortgage and charge of the 4% mortgage debentures in favour of a loan about to be raised by the company by means of an issue of £300,000. of prior lien debentures, carrying interest at a rate not exceeding 6%, redeemable by 1933, or by option of the company at 105% after January 1, 1911. Mr. F. Dawes presided. After a long discussion, an amendment was moved that if the interest was not paid in January next on the 4% debentures the trustees be instructed to foreclose. The chairman was about to put the motion when a holder moved that the meeting be adjourned till the end of January. The amendment being put was carried, but the chairman declared that in view of proxies held the amendment was lost. The original resolution was then put after a considerable number had left the room, and was lost by eight votes in favour and thirteen against. The result of the subsequent poll was in favour of the resolution, as a result of proxies held by the chairman, and he declared it carried.

SULPHIDE CORPORATION, LTD.

The Earl of Kintore, presiding at the meeting of the Sulphide Corporation, Ltd., said the past year had been an exceptional one owing to the amount of construction work on hand, which had involved a strain on the managers and staff in Australia, and on their financial resources, which was clearly indicated in the accounts. The chief features of the year had been the largest capital expenditure they had ever had to face, and the lowest output on record of crude ore from the mine. This expenditure was absolutely necessary, and, as the result of it, they had now a shaft which would be unaffected by the surface movements which spoiled the old one. The capital expenditure was now at an end, and the profits would be available for dividend.

CAPE COPPER CO., LTD.

At the meeting of shareholders, held recently, the Chairman stated that they had made a larger profit in the past year than in the preceding one, the figures being £379,000., an increase of £36,536. He had no hope, however, that they would have any more record-breaking, as the abnormal inflation of prices had ceased, and numerous competitors had been called into existence by the high prices. The large profit had been made despite the fact that the costs had gone up by £21,485., of which £14,253. had been spent in trial works, and £5,483. for increased mining costs at Ookien.

BLEACHERS' ASSOCIATION.

The report for the six months ended September 30 shows, after providing maintenance, upkeep, and prior charges, a net profit of £151,137., as compared with £146,736. at the corresponding period. There is then transferred £25,000. to depreciation fund, the preference dividend is met, and £70,689. is carried forward, which includes £7,279. brought forward at April 1 last.

NEW PEGAMOID, LTD.

The profit for the year amounted to £233., to which must be added £503. brought forward, making £736. The poor results on the year's trading are caused by the progressive rise in the prices of raw materials used by the company and also by the impossibility of obtaining supplies. The directors do not feel justified in declaring a dividend.

IMPROVEMENTS IN THE PRODUCTION OF AMMONIA.

THE following is the full text of the complete specification of British Patent No. 28,964, of 1906, for "Improvements in the Production of Ammonia," granted to Herman Charles Woltereck, of 3, Edinburgh Mansions, Howick Place, Victoria-street, London, S.W.

In the Specification of Letters Patent, No. 16,504, of 1904, "Process for the Production of Ammonia," there is described a process for the production of ammonia consisting in passing air and steam over or through peat at a carefully regulated temperature. For the purposes of such process all peat may be used, whether containing, for example, the quantity of water ordinarily contained in air-dried peat, or, for example, the quantity which the peat generally contains in the bog, that is to say, before it has been subjected to any drying process, whether air-drying or mechanical suction or pressure process. To produce air-dried peat, whether hand or machine-cut, requires considerable labour and repeated handling of the peat. It also requires considerable space for the spreading, footing, and re-footing and stacking of the peat, and is naturally dependent to a great extent upon climatic conditions. To use the peat without eliminating any of the water therewith associated as it comes from the bog means the handling of a material containing possibly 90% of water, or even somewhat more, and accordingly say 10% or less of material other than water.

It has been proposed to reduce the moisture in peat by mechanical means and subsequent air-drying, and to use the dry peat for the production of ammonia. I have found that when all the factors are taken into consideration the most economical method of commercially working the process above referred to is attained by taking the peat from the bog and reducing, without resorting to any air-drying, the water by any suitable mechanical suction or pressure process. It is possible by such a mechanical suction or pressure process to reduce the percentage of water in the peat to, say, 60%, but with ordinary peat containing as it comes from the bog, say, up to 90% or somewhat more of water, the mechanical elimination of water is not so advantageous when carried further than to reduce the percentage of water to, say, 65 to 70%. It will be appreciated that the peat does not require to be cut in the manner customary where air-drying is intended. It may be excavated by machinery discharging directly on trucks, which convey the wet peat to the place where its water is mechanically reduced.

A further and very important advantage of my present invention is that the peat charged into the retorts in the practice of the above-mentioned process for the production of ammonia contains a substantially uniform percentage of moisture, and accordingly the regulation of the temperature is facilitated.

According to my present invention, I accordingly, with a view to obtain the greatest economical success and to facilitate the regulation of the temperature in the above-mentioned process for obtaining ammonia by passing air and steam over or through peat at a carefully regulated temperature, mechanically eliminate most of the water contained in the peat as it comes from the bog, which can be so eliminated.

The claims are:—(1.) The improvement in the process herein referred to for obtaining ammonia consisting in reducing by suitable suction or pressure the water in the peat to be employed in such process to 65 to 70%, without further drying.

(2.) The use in the process herein referred to for obtaining ammonia of peat whose water content has been reduced to about 65 to 70% by suitable suction or pressure.

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THE CLASSIFICATION AND USES OF CEMENT.*

BY SAMUEL S. SADTLER.

(*Concluded from p. 496.*)

(6.) *Setting by Chemical Action.*—Under this classification we have several of the most useful cements known. In most cases, however, the action is too rapid, so that setting takes place before the cement is in position. Dilution of the active ingredients is the general remedy for this. There are also specific ones. As examples of the most useful cements, the oxy-chlorides may be mentioned, which remain nicely liquid or plastic for ample time to use and then set up very strong and hard. The well-known glycerine-litharge cement acts nicely in this respect. Cements formed from silicate of soda and oxides of lime, magnesia, zinc, etc., and those formed by the action of their oxides on casein and albumen, do not act so well. They are liable to set up too soon and be crumbly when set up.

(7.) *Setting by Combined Action.*—The most prominent case of this kind is the setting of glue. In the first place, when used, it is a melted mass that, on cooling, has fair strength of coherence and adherence. Then, however, as the water is absorbed by the wood or other material being cemented, it becomes stronger until very great strength is developed when free of water.

Other cases are when a solvent or heat is used with a resin, boiled oil, etc., mixed with a metallic oxide such as lime. There is then the combined action of the evaporation and the formation of new compounds or so-called metallic soaps.

INERT SUBSTANCES.

These useful, harmless substances do not make a cement, but so many formulas differ only in the choice of them that it might be supposed they did. Sometimes a little work is required of them, as when there is water to be taken up. Plaster and Portland cement serve this purpose. Zinc oxide and other basic substances, while mainly serving as fillers, absorb acid in addition. In most cases, however, no action of this kind is required, and it is merely a matter of giving body or other physical properties.

A classification of fillers may be made as follows :—

Corrective.	Porous.	Strength.	Finely divided.
Portland cement.	Infusorial earth.	Asbestos.	Cement.
Plaster of Paris.	Magnesium carbonate.	Hair.	Clay.
———		Plush trimmings.	Plaster.
Zinc Oxide.		Cloth.	Gypsum.
Lime.		Tow.	Whiting.
Whiting.		Oakum.	Silica.
Magnesia.			Powdered glass.
			,, fluorspar.

COMPOSITION OF CEMENTS.

Cements that have come into use to any extent may be placed in classes according to their composition as follows :—

(1.) (*a*) Rubber solutions. (*b*) Guttapercha solution. (*c*) Pyroxylin solution (collodion.) (*d*) Gum resin solutions (such as mastic and copal). (2.) Silicate of soda and neutral filters. (3.) (*a*) Flour pastes. (*b*) Starch pastes. (*c*) Dextrin pastes. (*d*) Gum solutions (such as arabic, tragacanth). (4.) (*a*) Plaster of Paris. (*b*) Portland cement. (5.) (*a*) Bitumens (pitch, tar, asphalts, etc.). (*b*) Resins (resin and gum resin in melted state). (*c*) Sulphur. (*d*) Shellac. (*e*) Rubber and guttapercha, melted or thinned with oil. (6.) Iron powder compositions. (7.) Drying oil mixtures. (8.) Oxychloride cements. (9.) Glycerin and sugar compounds of lead. (10.) (*a*) Glue. (*b*) Casein. (*c*) Albumen. (11.) Cements made from metallic oxides and strong acids. (12.) (*a*) Vitreous and vitrifying mixtures. (*b*) Clay and asbestos, etc., with water.

Class (1)—(*a*), (*b*), and (*c*) are especially waterproof, tough, and tenacious; (*d*) is not so tenacious, but answers the other requirements, adheres better to smooth surfaces, has greater hardness when set, and is transparent in thin layers, in which it is frequently used for optical purposes; (*a*), (*b*), and (*c*) are generally made up with fillers to prevent the formation of voids on the evaporation of the solvent.

Class (2.) Not waterproof, but form very dense, hard and strong lutes. Especially good for hot gases, in which case the water of the silicate can go off. They are useful for organic solvents and stick only too well to glass. Suitable fillers are barytes, whiting, silica, powdered glass and powdered fluorspar. The three latter probably slowly react with the silicate with beneficial results.

Class (3.) Are used for fastening paper and cloth.

Class (4.) This is a most important class. (*a*) is generally used without filler, although frequently mixed with alum, etc., for purposes of increasing the density. It is used for filling hollow articles, moulds, etc. (*b*) is the most used of all cements. It is made into concrete for building purposes, etc. For use in small amounts it is not successful as the water dries before it can set.

The making of cement concrete waterproof is an art not understood by all. The main points to be considered are to have the voids as few as possible, and the dense coating on the side the water would enter. Neat cement is probably most used for this denser coating. It should be used as strong as it will flow well into crevices, and hot if possible. The condition of the work and the kind of cement are important. It is waterproofed best when fresh, and if washes such as silicate of soda, skimmed milk and casein solution are used, an over-limed cement is desirable. Magnesia cement has been recommended for this purpose, but the chloride is liable to soak in and not combine properly with the oxide.

Class (5.) This is a very important class, if the number of formulas are a criterion. The materials must be applied in melted condition. The marine glues are made from materials of this class. Sulphur is much used by itself, and sealing wax is also of this class.

Class (6.) The use of this material has been referred to above.

Class (7.) Putty and red lead compositions are among the best known cements. Boiled linseed oil is invariably used, and if rosin is dissolved in it and metallic oxides mixed therewith a much thicker composition is obtained thereby than otherwise. When very much oxidised by exposure to heated air in their films and mixed with powdered cork, etc., linoleum can be produced.

Class (8.) Oxy-chloride of zinc has been used for dental purposes and forms a very dense, strong, stone-like cement. Oxy-chloride of magnesium is, however, more used, as the ingredients are cheaper. It is used for uniting particles of stone either for refacing the same or make an artificial stone, for making compositions with saw dust for a kind of floor tiling.

Class (9.) This class is a valuable one, embracing the well-known glycerine and litharge cement, much used for joining glass to metals, etc. It is waterproof, acid proof, gas proof, and not attacked by organic solvents.

Class (10) Casein and albumen form very strong compositions with lime, zinc oxide, etc. They set up very quickly, so must be used at once. They are more in the nature of lutes than cements properly considered.

Class (11) The combination of zinc and other oxides and phosphoric acid stands for this class. It is much used by dentists and forms a hard, dense, waterproof substance.

Class (12.) This class includes glass powders or glass forming mixtures that bind surfaces at high temperatures.

With a view of choosing a cement only the most general statements can be made here. In two previous papers† details of formulas have been given by the writer.

The following suggestions may be of use, however, the numbers referring to the classification above :—Hot surfaces, 2, 4a, 9, 10 and 12. Elastic, 1a, 1b. Water and steam, 5a, 5b, 5e, 6, 7 and 9. Strength, 2, 4b, 8, 9, 10a, and 12. Expanding, 4b and 6. Quick setting, acid proof, 1a, 1b, 1c, 2, 5a, 5b, 5c, 5e, 9. High temperature (moderate), 4b, 6. High temperature (excessive), 12a, 12b.

DETAILS OF USE.

It is a matter of importance that a cement be used under favourable conditions. It might seem superfluous to say that the "work" should be clean, but in large factories there is frequently a great deal of dust, moisture, grease, etc., that deposits on pipes and other places where joints are to be sealed.

Air films should be displaced by heating the "work." This prevents a chilling of the cement, which might fail to adhere if not used into the surfaces where applied. Some writers have insisted upon this heating as a *sine qua non* of success. But it is manifestly impossible in some cases. An alternative to this is to paint the surfaces to be joined with a solution of the chief constituent of the cement. A benzol solution, for instance, of

* A paper read before the Franklin Institute.—From the *Journal* of the Institute.

† Jour. Franklin Inst., May, 1904. Trans. Eng. Club of Phil., 21, (1904), 315.

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pitch, oil, rosin, etc., can be used. If silicate of soda, glycerine, or magnesium chloride are the liquid elements, water can be used as solvent for this painting.

Surfaces should fit as closely as possible before the cement is used. Use as little cement as possible.

Preservatives such as sodium salicylate, benzote, or an essential oil may be used in small amounts for pastes and mucilages that would spoil otherwise on exposure. It is a good plan to have some cements or lutes most used for any particular line of work made up ready to be mixed or applied.

Analytical Notes.

THE DETERMINATION OF CHLORIDES OR BROMIDES IN THE PRESENCE OF SULPHOCYANATES.*

By M. A. Rosanoff and Arthur E. Hill.

(1.) *Introductory.*

In the course of a research undertaken in the Havemeyer Chemical Laboratory, New York University, it became necessary to analyse a number of solutions containing mixtures of chlorides and sulphocyanates. Investigation of the literature of the subject showed that no method exists by which such mixtures can be analysed quickly and accurately; it was found that those methods which can be relied upon for accuracy of results require such expenditure of time as prohibits their use where large numbers of analyses must be performed. In like manner search revealed no suitable method for the analysis of bromide-sulphocyanate mixtures.

To remedy this lack, the following volumetric method is proposed. It permits of an accuracy within the limits of the usual errors of measurement with pipettes and burettes, and requires less time than any of the existing methods; a single complete determination has been found to require about one and a half hours, while two determinations can be performed without difficulty in two hours. By proper organisation of the work eight to ten analyses can easily be made within a working day.

The sum of chloride and sulphocyanate, or of bromide and sulphocyanate, is established by precipitation with excess of standardised silver nitrate and determination of the excess by titration with standardised ammonium sulphocyanate, according to the method of Volhard (*Journ. Prakt. Chem.*, 1874, ix., 217; *Zeit. Anal. Chem.*, 1874, xiii., 171). Precipitates containing silver chloride must be filtered off before the excess of silver nitrate is determined, while in the case of the bromide filtration is unnecessary (Rosanoff and Hill, *Journ. Am. Chem. Soc.*, 1907, xxix., 269; *Chemical News*, xcvi., 264; *Chem. Centr.*, 1907, i., 1596). The new method has for its object the determination of the chloride or bromide in a fresh sample of the solution, by oxidising the sulphocyanate to hydrocyanic acid by means of nitric acid, expelling nearly all the hydrocyanic acid, and determining the residual chloride or bromide, in the presence of the traces of cyanide, by the Volhard method. The sulphocyanate originally present is found by difference.

(2.) *Determination of Chlorides.*

The following solutions are required:—(*a*) A fifteenth-normal solution of silver nitrate, standardised gravimetrically or by weight of silver nitrate used; (*b*) a fifteenth-normal solution of ammonium sulphocyanate, standardised against the silver nitrate by Volhard's method; (*c*) a saturated solution of iron-ammonium alum, free from chlorides, and treated with nitric acid to lighten the colour.

A measured volume of the chloride-sulphocyanate mixture is diluted so that the normality of the chloride is about one-fiftieth. The solution is treated with 1 cc. of the iron-ammonium alum, and brought to a boil in a large Erlenmeyer flask. To the gently boiling solution concentrated nitric acid is added at the rate of about three drops a minute, during which operation the liquid should be frequently stirred to prevent superebullition. The addition of the acid in the above described manner is continued until the colour of the solution has faded to a *pale orange*, and then, without further addition of acid, the solution is allowed to boil for a few minutes longer, by which treatment the last traces of sulphocyanate are oxidised. The complete oxidation requires about twenty minutes' time; a change of colour to pure yellow indicates the completion of the operation. The odour of hydrocyanic acid is now practically gone.

Cool the solution thoroughly under the tap, and add to it one-third its volume of concentrated nitric acid. Add a measured amount of N/15 silver nitrate in moderate excess above the quantity required to precipitate the chloride and shake the mixture until the precipitate is well coagulated, which requires but a few minutes' agitation when the solution is cool, but *a much longer time if the solution is heated.* When the precipitate is well coagulated, bring the solution again to a gentle boil, maintaining it at this temperature for about five minutes. The liquid above the precipitate must become perfectly clear.

Filter the solution while still hot through a rapid-running double filter, paying no attention to the opalescence which forms in the filtrate upon cooling. Wash the precipitate with hot water containing a few drops of nitric acid. Allow the liquid to cool thoroughly, dilute until the volume is about three times that of the solution before filtration, add 2 cc. of the iron indicator for every 100 cc. of solution, and run in the standardised sulphocyanate to a strong red colour. Stir the solution for five minutes, and then add the standardised silver nitrate drop by drop, with stirring, until the colour just disappears. A single drop of the sulphocyanate solution should then give a permanent pink colour; should it fail to do so, titrate back and forth with the silver nitrate and ammonium sulphocyanate until the colour changes on addition of a single drop. The titration is best conducted in a porcelain dish, against the white ground of which the end point is most accurately determined; in glassware transmitted light effects may be misleading. The total silver nitrate added, *minus* the total ammonium sulphocyanate added, is the silver nitrate equivalent of the chloride present.

The following is a list of ten consecutive analyses of mixtures of potassium chloride and sulphocyanate performed according to the foregoing directions:—

	N/15 KCl solution	N/15 KCNS solution	$AgNO_3$ equivalent of KCl taken.	$AgNO_3$ equivalent found	Absolute error.
	Cc.	Cc.			Cc.
(1.)	0.00	25.00	0.00	0.02	+0.02
(2.)	10.00	90.00	9.95	9.96	+0.01
(3.)	25.00	50.00	24.87	24.87	0.00
(4.)	25.00	50.00	24.87	24.86	−0.01
(5.)	25.00	25.00	24.87	24.88	+0.01
(6.)	25.00	25.00	24.87	24.93	+0.06
(7.)	25.00	10.00	24.87	24.83	−0.04
(8.)	25.00	5.00	24.87	24.90	+0.03
(9.)	25.00	3.00	24.87	24.84	−0.03
(10.)	25.00	0.15	24.87	24.90	+0.03

(3.) *Determination of Bromides.*

The analysis of bromide-sulphocyanate mixtures is conducted precisely as that of the chloride mixtures, with three modifications:—(*a*) the solution to be treated with nitric acid for the destruction of the sulphocyanates should be diluted to roughly one-hundredth normality with respect to bromides; (*b*) after the sulphocyanate has been decomposed at the boiling temperature and the liquid thoroughly cooled, only one-sixth its volume of concentrated nitric acid is added; (*c*) the precipitated silver salts should not be filtered off before the excess silver nitrate is determined.

The following analyses of bromide-sulphocyanate mixtures were made according to the above directions:—

	N/15 KBr solution.	N/15 KCNS solution.	$AgNO_3$ equivalent of KBr taken	$AgNO_3$ equivalent found.	Absolute error
	Cc.	Cc			Cc.
(1.)	25.00	0.15	22.72	22.76	+0.04
(2.)	25.00	0.15	22.72	22.69	−0.03
(3.)	25.00	3.00	22.72	22.73	+0.01
(4.)	25.00	5.00	22.72	22.78	+0.06
(5.)	25.00	10.00	22.72	22.69	−0.03
(6.)	25.00	10.00	22.72	22.68	−0.04
(7.)	25.00	25.00	22.72	22.73	+0.01
(8.)	25.00	50.00	22.72	22.74	+0.02
(9.)	25.00	100.00	22.72	22.72	0.00
(10.)	10.00	90.00	9.09	9.12	+0.03

(4.) *Theory of the Method.*

While the best test of a method is in its practical results, it is well to establish clearly the facts upon which it is based. Our

* From the *Journal of the American Chemical Society.*

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method depends upon the following assumptions:—(1) That sulphocyanates may be decomposed at a temperature of about 100° by such concentrations of nitric acid as are insufficient either to oxidise chlorides of bromides, or to cause the volatilisation of hydrochloric or hydrobromic acid; (2) that all but traces of the hydrocyanic acid formed by this decomposition can be volatilised during the time required for the oxidation itself; (3) that the silver cyanide formed by addition of silver nitrate to this solution is sufficiently soluble in hot nitric acid to be separated quantitatively from the insoluble silver chloride by filtration; and, finally, (4) that small amounts of silver cyanide do not interfere with the determination of the excess of silver by means of a sulphocyanate titration, since it acts as a soluble silver salt. Each of these assumptions has been subjected to experimental investigation.

The quantity of concentrated nitric acid used during the oxidation ordinarily amounts to 2 cc. or less. If acid should be added more rapidly than the decomposition of the sulphocyanate required, there can be present at any time not more than this small amount of acid in solutions, the volume of which is usually about 200 cc. Experiments were, therefore, conducted to ascertain whether this amount of nitric acid could be used without loss of chlorine or bromine from solutions of the concentration used in our analytical method. 200 cc. samples of N/50 chloride solution, or N/100 bromide solution, were boiled gently for fifteen to twenty minutes with varying amounts of concentrated nitric acid, and the distillates, amounting in each case to about 15 cc., were carefully tested for the presence of the halogens. The experiments tabulated below were performed in duplicate:—

N/50 KCl.	Conc. HNO_3.	Vol. of distillate.	Cl Present.
200	1.00	15	None
200	2.00	15	None
200	3.00	15	None
200	4.00	15	None
200	6.00	15	Traces
N/100 KBr.	**Conc. HNO_3.**	**Vol. of distillate.**	**Br. Present.**
200	1.00	15	None
200	2.00	15	None
200	3.00	15	None
200	3.50	15	Traces

The results show that under the conditions of analysis, loss of halogen cannot be caused by the addition of nitric acid and boiling.

The principal, but by no means the only, decomposition product of sulphocyanic acid is hydrocyanic acid. Tests showed that when a pure sulphocyanate is decomposed in the manner described, only traces of hydrocyanic acid remain in the solution; when the decomposition is carried out in the presence of a chloride, amounts are retained corresponding to less than 2 mgrms. of silver cyanide. This rapid loss of hydrocyanic acid during twenty minutes' treatment appeared somewhat surprising in the light of Richards and Singers' observation that the presence of chlorides prevents the expulsion of hydrocyanic acid to a marked extent (*Am. Chem. Journ.*, 1902, xxvii., 208). It occurred to us, therefore, that the decomposition of the sulphocyanate might possibly result in the formation of cyanogen rather than hydrocyanic acid, as was suggested by Knüpffer (*Zeit. Phys. Chem.*, 1898, xxvi., 264), who oxidised the sulphocyanic with acid potassium white. Accordingly, the decomposition products were passed through a solution of potassium hydroxide and the alkaline liquid analysed; it was found to contain cyanide but no cyanate, showing the absence of cyanogen, and indicating that we had in reality to do with a very rapid expulsion of hydrocyanic acid. Richards and Singer (*loc. cit.*) expressed the view that the retention of the hydrocyanic acid by chlorides might be due to the formation of ionic complexes. Assuming this interpretation to be correct, it would appear that the complex requires a measurable time interval for its formation, and that boiling will expel hydrocyanic acid from chloride mixtures much more rapidly at the time of its formation than after the solution has been allowed to stand. It would in all probability be a lengthy operation to volatilise the acid quantitatively, but this is unnecessary in connection with our method.

The solubility of silver cyanide in nitric acid of moderate strength, which is taken advantage of in our method of analysis, was noted by Gregor (*Zeit. Anal. Chem.*, 1894, xxxiii., 33), who showed the marked solubility of the cyanide in 6 to 10% acid. In hot solutions of 25% strength we find its solubility much greater; at 80° about 0.5 cc. of N/15 potassium cyanide and 0.5 cc. of N/15 silver nitrate, corresponding to about 4 mgrms. of silver cyanide, can be added to 200 cc. of the acid without causing any turbidity. The amount of hydrocyanic acid left in the solution in our method is considerably less than the equivalent of this quantity of cyanide, and there is, therefore, no interference with the quantitative separation of the silver chloride from the decomposition products of the sulphocyanate by filtration of a hot nitric acid solution of 25% strength.

That small amounts of silver cyanide can be left in the filtrate without interference with the determination of the total silver by means of a sulphocyanate titration might be expected from the fact that in acid solution silver cyanide is much more soluble than silver sulphocyanate. Consequently, the ammonium sulphocyanate added in the titration will decompose the silver cyanide in the sense of the equation $NH_4CNS + AgCN = AgCNS + NH_4CN$, and it will not be until the ammonium cyanide reaches a considerable concentration that the reverse action will become appreciable. To ascertain how great the concentration of cyanide might safely be allowed to become, the following experiments were conducted. A silver nitrate solution of about N/15 strength was standardised against an ammonium sulphocyanate solution, and to 15 cc. samples of the silver solution varying quantities of a N/15 potassium cyanide solution were added. In the presence of ferric iron as indicator, sulphocyanate was run into the solution until a strong red colour was obtained, the mixture was stirred briskly for five minutes to afford time for the decomposition of the silver cyanide, and then silver nitrate was run in drop by drop, with stirring, to the disappearance of colour. One drop more of the sulphocyanate gave in each case a permanent coloration. The quantity of sulphocyanate required for the total silver was then compared with the quantity as calculated from the original standardisation of the two solutions. The tabulated results show the variation in cc. from the true titre of the solutions, the experiment being performed four times for each concentration of potassium cyanide used.

N/15 KCN taken in cc.	Extreme errors in cc. of N/15 NH_4CNS.
0.10	−0.01 to −0.04
0.20	−0.01 to −0.06
0.30	+0.03 to −0.03
0.40	+0.05 to −0.01
0.50	+0.13 to +0.09
1.00	+0.52 to +0.12

The results show that quantities as great as 0.4 cc. of N/15 potassium cyanide solution do not affect the accuracy of the titration by amounts larger than the errors of measurement, while larger quantities cause perceptible errors in determining the true end-point. In the analytical method proposed, the amount of cyanide left in the solution is much less than half of this maximum amount.

Experiment thus substantiates the correctness of the assumptions involved in our method.

(To be continued.)

THE NEW PATENTS ACT.

(Continued from page 564.)

85.—(1.) Rules under this Act may authorise the comptroller to refuse to recognise as agent in respect of any business under this Act any person whose name has been erased from the register of patent agents, or who is proved to the satisfaction of the Board of Trade, after being given an opportunity of being heard, to have been convicted of such an offence or to have been guilty of such misconduct as would have rendered him liable, if his name had been on the register of patent agents to have his name erased therefrom, and may authorise the comptroller to refuse to recognise as agent in respect of any business under this Act any company which, if it had been an individual, the comptroller could refuse to recognise as such agent.

(2.) Where a company or firm acts as agents, such rules as aforesaid may authorise the comptroller to refuse to recognise the company or firm as agent if any person whom the comptroller could refuse to recognise as an agent acts as director or manager of the company or is a partner in the firm.

(3.) The comptroller shall refuse to recognise as agent in respect of any business under this Act any person who neither resides nor has a place of business in the United Kingdom or the Isle of Man.

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Powers, etc., of Board of Trade.

86.—(1.) The Board of Trade may make such general rules and do such things as they think expedient, subject to the provisions of this Act—

(*a*) For regulating the practice of registration under this Act :
(*b*) For classifying goods for the purposes of designs :
(*c*) For making or requiring duplicates of specifications, drawings, and other documents :
(*d*) For securing and regulating the publishing and selling of copies, at such prices and in such manner as the Board of Trade think fit, of specifications, drawings, and other documents :
(*e*) For securing and regulating the making, printing, publishing, and selling of indexes to, and abridgments of, specifications and other documents in the Patent Office ; and providing for the inspection of indexes and abridgments and other documents :
(*f*) For regulating (with the approval of the Treasury) the presentation of copies of Patent Office publications to patentees and to public authorities, bodies, and institutions at home and abroad :
(*g*) For regulating the keeping of the register of patent agents under this Act :
(*h*) Generally for regulating the business of the Patent Office, and all things by this Act placed under the direction or control of the comptroller, or of the Board of Trade.

(2.) General rules shall whilst in force be of the same effect as if they were contained in this Act.

(3.) Any rules made in pursuance of this section shall be advertised twice in the official journal to be issued by the comptroller, and shall be laid before both Houses of Parliament as soon as practicable after they are made, and if either House of Parliament, within the next forty days after any rules have been so laid before that House, resolves that the rules or any of them ought to be annulled, the rules or those to which the resolution applies shall after the date of such resolution be of no effect, without prejudice to the validity of anything done in the meantime under the rules or to the making of any new rules.

87.—(1.) All things required or authorised under this Act to be done by, to, or before the Board of Trade, may be done by, to, or before the President or a secretary or an assistant secretary of the Board.

(2.) All documents purporting to be orders made by the Board of Trade, and to be sealed with the seal of the Board, or to be signed by a secretary or assistant secretary of the Board, or by any person authorised in that behalf by the President of the Board, shall be received in evidence, and shall be deemed to be such orders without further proof, unless the contrary is shown.

(3.) A certificate, signed by the President of the Board of Trade, that any order made or act done is the order or act of the Board, shall be conclusive evidence of the fact so certified.

88.—An Order in Council under this Act shall, from a date to be mentioned for the purpose in the Order, take effect as if it had been contained in this Act ; but may be revoked or varied by a subsequent Order.

(*To be continued.*)

THE LATE LORD KELVIN.

THE funeral of the late Lord Kelvin took place on Monday last, in Westminster Abbey, His Majesty the King was represented by the Duke of Argyll, and the Prince of Wales and Duke of Connaught also sent representatives. The pall bearers included Mr. John Morley, Admiral Seymour, Lord Tweedmouth (representing the Admiralty), Admiral Sir John Fisher (the Navy), Lord Courtney, the Lord Provosts of Glasgow and Edinburgh, Lord Rayleigh, Sir Archibald Geikie, Sir John Wolfe Barry, and others. Many of the important learned societies of Europe were also represented, including the French Academy of Science, the Accademia dei Lincei of Rome, the Elektrotechnischer Verein of Berlin, Austrian, French, Swiss and American Societies, and the Universities of Sydney and Montreal. The Royal Society's delegates included Sir William Crookes, Sir William White, and Sir Alexander Kennedy, and among the other societies represented were the Physical Society, the Astronomical Society, the Institution of Electrical Engineers, the Institute of Civil Engineers, the Institution of Naval Architects, the Royal Institution, the British Museum, the Imperial Institute, the Literary and Philosophical Society of Manchester, the Liverpool Engineering Society, the London Mathematical Society, the Royal Meteorological Society, and the Royal Institute of Public Health. The University of Glasgow was represented by the Principal (Dr. McAlister) and nine professors. Cambridge sent its Vice-Chancellor, the Master of Trinity, and the Master of Peterhouse (Lord Kelvin's old college). The Manchester University was represented by Professor Lamb, Professor Boyd Dawkins, Professor Rutherford and Professor Schuster ; while the Birmingham University was represented by Sir Oliver Lodge and Professor Poynting.

The body of the famous scientist is interred in close proximity to the burial place of Sir Isaac Newton.

INDUSTRIAL POISONS.

ON the 13th inst., Professor Oliver lectured at the Society of Arts, John-street, Adelphi, on "Industrial Poisons : Lead and Phosphorus."

In his introductory remarks, Professor Oliver mentioned that cases of lead poisoning were still too numerous to allay public apprehension on the subject, and it was only fitting that Great Britain should not be behind other countries in the matter of industrial hygiene. In Great Britain, lead miners were free from lead poisoning, although this was not the case abroad. The lead mining industry of this country was not so prosperous as formerly, it having been found more profitable to obtain the metal as a by-product in the production of silver. It was in the smelting of the mineral that the lead poisoning danger first arose. The lecturer described, by the aid of lantern slides, the process followed in mining and smelting lead, and then dealt with the manufacture of white lead. The workpeople employed in emptying the beds, and in drying and packing white lead were the chief sufferers, owing to the dust always associated with these operations. The lead entered the system by the alimentary canal, the respiratory passages, and the skin. Sex had a great bearing on lead poisoning, women being more susceptible than men. Loss of power in the wrist and extreme pallor were the chief symptoms. Alcohol was a predisposing cause, but Professor Oliver did not think that lead workers were any more intemperate than those of other industries. In the old days, when women were largely employed in such factories, blindness often overtook them within three months, and in the workhouses of to-day could be seen women who had lost their sight through lead poisoning. He pointed out, for the benefit of young medical practitioners and others, that what, in women, often appeared as hysteria, was in reality due to lead poisoning, followed by death in about 48 hours. Lead sometimes remained dormant in the system during lengthy periods—in one case for seventeen years, and eventually produced paralysis of the eye-ball. However, if workpeople would only carry out the regulations formulated by the Home Office as to personal cleanliness, there would be fewer cases of lead poisoning.

With regard to the match industry, better conditions had resulted in a decrease of phosphorus necrosis. In the old days, anywhere was considered good enough for the manufacture of matches, and a view was shown of an old-time works in which a workman could be seen dipping the matches in such a manner as to inhale the fumes emitted from the yellow phosphorus paste. Since that time great strides had been made in the match industry by the employment of labour-saving machinery, which obviated the handling of the matches, and he had hoped that in a few years there would seldom be a case of phosphorus necrosis. Dealing further with the subject of necrosis, the lecturer observed that some medical men held the opinion that it was tubercular, but he thought there was little doubt that the phosphorus fumes obtained access to the bone through decayed teeth, producing abcesses and then "phossy-jaw."

CHEMICALS IN POLAND.—According to the reports of the Polish Customs Houses the importation of German chemicals into the Kingdom of Poland continues to increase. For the past half year the importation of such goods has exceeded that of the corresponding period of 1906 by 18½%. This circumstance has had a by no means favourable influence on the Russian chemical industry, the development of which is in any case slow, especially in artificial manures. The increase in the importation of manures is accounted for by increased Customs facilities under the existing commercial treaty with Germany.

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The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of G. Keville Davis, who reports professionally upon the value of Chemical Patents.

APPLICATIONS FOR BRITISH LETTERS PATENT.

Wet Methods of Separating Metallic Compounds. J. H. Thwaites. 27,142. December 9.
Colouring Matters of the Anthracene Series. J. Y. Johnson. 27,187. December 9.
Continuous Kilns. W. S Akerman. 27,217. December 9.
Treatment of Titaniferous Iron Ores. A. Sinding-Larsen. 27,282. Dec. 10.
Feed-water Heater. J. Rosemeyer. 27,302 December 10.
Amorphous Bodies. E. G. Acheson. 27,312. December 10.
Roasting Pans. P. Scott. 27,318. December 10
Injectors for Hydrocarbon Furnaces. S. S. Field and A. Kirby. 27,320. December 10.
Utilising Pyrites, Pyrites Cinder, etc. J. H. Thwaites. 27,334. Dec. 11.
By-products from Asphaltum, etc. S Everett. 27,335. D cember 11.
Electro-deposition of Metals. S. O. Cowper-Coles 27,385 December 11.
Subjecting Gases and Vapours to the Action of Liquids. C. H. Fowler and E. A Medley. 27,391. December 11.
Dye Lakes of Sulphuretted Azo-Dyes. W. P. Thompson. 27,392. Dec. 11.
Utilising Liquor obtained from Pyrites, Pyrites Cinder, etc. J. H. Thwaites. 27,426. December 12.
Hydrofluosilicic Acid. J. J. Eastick. 27,428. December 12.
Self-cleansing Filter. J Marsland and Automatic Filters, Limited. 27,435. December 12.
Coke-Ovens. A. O. Jones. 27,445. December 12.
Mixing and Crushing Machines. G. Händle. 27,456. December 12.
Unstable Chemical Solutions. F. W. Alexander and J. C. McClelland. 27,463. December 12.
Concentrating Lyes. O. Venter. 27,482. December 12.
1-phenyl . 2 : 3-dimethyl-4-dimethylamino-5-pyrazoline. Farb. vorm. Meister Lucius, and Brüning. 27,485. December 12.
Automatically Raising Liquids. A. G. Leigh. 27,498. December 13.
Detergent. L. G Hill. 27,500. December 13.
Utilisation of Coke Oven Waste Products J. Ingleby and Simon-Carves By-product Coke Oven Construction and Working Co., Limited. 27,505. December 13.
Utilising Liquors obtained from Pyrites, Pyrites Cinder, etc. J. H. Thwaites. 27,506. December 13.
Rotary Kilns. J. H. Thwaites. 27,515. December 13.
Electrode. J. M. Murphy. 27,559. December 13.
Washing Out Ammonia from Coal Gas. W. Feld. 27,567. December 13.
Recovery of Ammonia. W. Feld. 27,568. December 13.
Electro-deposition of Metals and Alloys on Aluminium. C. Mason. 27,591 December 14
Steam Superheaters. P. A. W. Parkin 27,600. December 14.
Blue Diazo Colouring Matters. C. Ris and E. Haager. 27,609. Dec. 14.
Concentrating Liquids. O. Vender. 27,644. December 14.
Trioxymethylene Disinfectant. E. Huwart. 27,646. December 14.

COMPLETE SPECIFICATIONS ACCEPTED.

Readers desiring to peruse any of the following specifications in the original can obtain a copy by sending 8d. *in stamps to the Comptroller, Patent Office Sales Branch,* 25, *Southampton Buildings, Chancery-lane, W.C.*

1906.

Petroleum Compounds with Low Flashing Points. Cowper-Coles. 27,945.
Producer Gas Generators. Crossley and Rigby. 28,834.
Liquefaction of Gases. Soc. L'Air Liquide. 29,733.
Vat Dyestuffs. Imray. 29,765.

1907.

Air-Gas Plant. Bruce. 3,243.
Halogen Derivatives of Indigo and Leuco Compounds thereof. Imray. 5,122.
Cooling, Washing, or Enriching of Gases or Liquids. Marks. 6,023.
Halogenised Vat Dyestuffs. Imray. 6,490.
Leuco Derivatives from Gallo-Cyanine. Ellis. 6,951.
New Azo Colouring Matters. Lake. 7,057.
Yellow Azo Dyestuffs. Bloxam. 7,146.
Raising Liquids. Scherb. 10,051.
Nitrate Explosives. Ermel 10,526.
Purification of Air or Other Gases. Soc. L'Air Liquide. 11,710.
New Dyestuffs of the Anthracene Series. Newton. 13,686.
Soldering of Aluminium. Küpfers Metallwerke Ges. 13,696.
Hydro-extractors. Diamanti and Beuf. 14,764.
Dyestuff. Oakes. 15,228.
Cement or Cementious Material from Slag. Collos Portland Cement Co. 15,765.
Pulverisers. Hess. 16,602
Determining and Recording the Composition of Boiling Mixtures of Liquids. British Oxygen Co. 19,813.
Separating Sulphurous Acid from Combustion Gases. Babé and Pape. 19,973.
Filter Elements. Selleuscheidt. 20,375.
Explosive Oils containing Nitro-glycerine. Haddan. 21,117.
Hydrazine. Raschig. 22,957.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Process for Manufacturing Oxalates from the Corresponding Formates by Heating in a Space from which the Air has been Partially Exhausted. Elektrochemische Werk. G m. b. H., Bitterfeld, Germany. British Patent, 19 943 Date applied for under International Convention, October 13, 1906

Oxalates are produced from the corresponding formates by heating in a space from which the air has been partially exhausted, the reaction being caused to take place at a temperature of below 360°.

Improvements in and Relating to the Manufacture of Portland and like Cements. H. Kelway Bamber, Outram House, Lower Addiscombe-road, Croydon British Patent, 23,450. Oct. 22 1906

The first two claims of this specification are :—(1) Regulating the setting time of Portland and like cements by supplying water in the form of fine spray or drops to the cement in a tube-mill, or other suitable mill, while the mill is working, so as to thoroughly and evenly mix the cement and water together. (2) The process of regulating the setting time of Portland and like cements, consisting in supplying a known quantity of water in the form of fine spray or drops to a known quantity of cement while the latter is being ground in a tube-mill, or other suitable mill, so as to thoroughly and evenly mix the cement and water together.

Improvements in or relating to Apparatus for Producing Gas from Liquids. H. W. Hanwell, 96, Abingdon Street, Northampton, and E. A. Beard, 11, Burns Street, Northampton. British Patent, 24,965. Nov. 6, 1906.

This invention has particular reference to the production of gas from petrol, paraffin, or other carbonaceous liquids. A mixing device is provided whereby the liquid is mixed with the requisite quantity of air and then is drawn into a pump whence it is discharged to a reservoir or gasometer. It has before been proposed to use a pump to first draw in a charge of air and fuel and then to pass this mixture through a heater whence it could be drawn off for use in the cylinder of an explosion engine, but in apparatus constructed according to this invention, the mixture is compressed in the pump prior to its discharge to the reservoir, and no heater is employed. The pressure to which the gas is submitted in the pump, moreover, is considerably in excess of that obtaining in the reservoir, and this compression appears to have the effect of converting the mixture into a fixed gas without passing it through a heater. A suitable pressure is maintained upon the gasometer for the purpose of feeding the gas through the connecting conduits, whereby it is led to the burners for lighting or heating purposes, or, if it is desired to use the gas for generating motive power, it may be led to the cylinder of an internal combustion engine.

Device for Mixing Fluids of Different Densities or a Heavy Precipitate with a Liquid. H. Leiser, Alter Markt, Thorn, Western Prussia. British Patent, 25,108. November 7, 1906.

The inventor claims :—Arrangement for mixing fluids or molten metals of different densities, or a heavy precipitate, with a liquid, and consisting of a set of S-shaped tubes dipping into the heavier substances and pointing obliquely upwards, the lower flared ends of which tubes point towards the direction of rotation, and the planes laid through which tubes form an angle with the radial plane.

Improvements in Effecting the Removal of Arsenic from Liquids and Gases. G. W. Johnson, 47, Lincolns Inn Fields, London (communicated by Chem. Fab. Griesheim-Elektron, Frankfort-on-the-Maine, Germany). British Patent, 3 435. February 12, 1907.

The patentee states that further investigations regarding the removal of arsenic from liquids and gases in which the arsenic is present as arsenious chloride or fluoride (and especially from sulphuric acid, hydrochloric acid, fluorhydric acid and gases which contain sulphur dioxide) have shown the inventors that the benzene derivatives mentioned in Specification No. 974, 1907, can, with advantage, be replaced by derivatives of the

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aliphatic hydrocarbons for effecting such removal of arsenic from liquids and gases, and the bodies deprived of arsenic be colourless. For removing arsenic from sulphuric acid, for instance, tetrachloride of carbon is most suitable.

The process can be carried out as follows:—Presuming that sulphuric acid of 66° B. containing 0.1% of arsenic is to be treated, it is mixed in a stirring vessel with six parts per thousand of hydrochloric acid of 24° B., or with the equivalent amount of fluorhydric acid. Ten per cent. of tetrachloride of carbon is then added and the whole is well stirred for a few minutes. The mixture is then allowed to become clear, and the tetrachloride of carbon, which now contains the arsenic, is removed. In order to regenerate the tetra-chloride of carbon which has become saturated with arsenic, it is treated with about double its quantity of water whereby the tetrachloride of carbon will be entirely deprived of its arsenic. The acid from which the arsenic has been removed is quite colourless.

In order to remove arsenic from gases, it is preferred to use acetylene tetrachloride on account of its high boiling-point. If the gases and solvent be allowed to pass through towers in opposite directions, perfect removal of the arsenic is effected. The acetylene tetrachloride can also be regenerated for reuse by removing the arsenic by washing with water.

Improvements in or Relating to a "Process for Absorbing, Condensing or Purifying Gases." F. Brandenburg, Lendersdorf, near Dueren, Rhineland. British Patent, 7,116. Mar. 25, 1907.

This invention relates to a process for absorbing, reacting upon, condensing or purifying gases, and refers to that class of apparatus in which the gases are introduced into, and respectively passed through, a ring of liquid kept in suspension by centrifugal force, in order to overcome any pressure against the rising gases or to reduce the pressure at least to a minimum.

The present process is based upon the principle that when water or a pulpy liquid is introduced into a rotating cylindrical or conical vessel closed at the bottom, the water or pulpy liquid will rise along the walls, whereas the bottom will become uncovered. During this action the liquid assumes the shape of a suspended and rotating ring. If in this rotating vessel a stationary (*i.e.*, an immovable) cylindrical vessel is inserted in such a manner that the walls of the rotating vessel are kept equidistant and at a suitable distance apart from those of the stationary vessel, the annular space thus formed between the walls of these vessels will be very soon filled up by the ring of liquid mentioned above. The ring of liquid, however, is no longer under the influence of the ordinary pressure due to a fixed column of liquid, because the whole ring of liquid is kept in suspension by centrifugal force. This condition of a suspended volume of liquid can be utilised to great advantage in order to bring gases, air and the like in a finely divided condition for a longer period of time into intimate contact with the liquid. To this end the inner vessel is provided with a bottom through which the gases are introduced into the rotating vessel. The gases thus introduced enter the rotating ring of liquid, take part in the rotation of the latter and ascend in said liquid, and each particle of gas describes a long spiral path, whereby two forces act upon each particle of gas, namely, the rotating volume of liquid, acting as a horizontal force, and the upwardly directed force of the gas based on the small specific weight of the latter, acting as a vertical force. The resultant of these two forces represents the actual path taken by each particle of gas, *i.e.*, the spiral. The drawing accompanying the specification shows an elevation of a device for putting the invention into practice.

An Improvement in the Manufacture of Soaps, Detergents, and Saponaceous Compounds generally. A. H. Charlton, Glenhurst, Brentford. British Patent, 16,448. July 17, 1907.

According to this invention a pure soap is made by the ordinary process with animal and vegetable fats and oils and rosin, and a solution of caustic soda, running away the "spent" and "half-spent" lyes and fitting the soap with an excess of alkali. The mixture is then allowed to settle to allow the impurities and nigre to drop, and the pure soap floats on the top; this is allowed to cool to a temperature at which the aftermentioned emulsion is not effected. The soap is transferred to a suitable pan fitted with a stirring apparatus, and to the soap is added an emulsified mixture composed of the following essential ingredients, and in about the following proportions, namely, talcum, 1 to 2%, sodium carbonate, 2%, potassium carbonate, 4%, and petrol or other spirit, 6%. Silicate of soda and sodium sulphate may be added in variable proportions.

Improvements in Filter-presses. R. Rossée 8, Schroderstrasse, Heidelberg, and Unionwerke A.-G. Fabriken für Brauerei-Einrichtungen vorm Heinrich Stockheim, vorm Otto Fromme, vorm. Heinrich Gehrke and Co., 150/162, Neckarauerstrasse Mannheim. British Patent, 9 225 April 22, 1907.

The inventor claims:—(1.) A filter-press element with a filtering cake or slab made of fibrous material inserted into the grid-frame, characterised in that a circularly extending chann l or groove is formed on the inside of the frame between this frame, the grid and the filtering cake, or slab supported thereon, into which channel or groove open the inlet or outlet or delivery passages and also the spaces between the bars of the grid. (2.) A filter-press element such as that claimed in Claim (1) characterised in that the bars of the grid are bent down at the ends towards the frame, in order to form the channel or groove.

Improved Process for Producing Compounds of Oxygen and Nitrogen. A. Neuburger, 4, Courbière Strasse, and Westdeutsche Thomasphosphatwerke G. m. b. H., 17, Karlsbad, both of Berlin. British Patent, 9 939. April 29, 1907.

The claims of this specification are:—(1.) Process for the production of compounds of oxygen and nitrogen, characterised by the feature that a suitable mixture of these gases, such as air, is first heated by means other than electric arcs to a temperature of at least 1,000° C., and then subjected to the influence of the electric arc. (2.) A modification of the process above set forth characterised by the feature that the air or other suitable mixture of oxygen and nitrogen is first heated by means other than electric arcs to a temperature of at least 1,000° C., and is then passed over a large number of electric flame arcs consecutively.

Great Cement Proprietary, Ltd.—The report for the year to September 30 states that there is an excess of expenditure over receipts in Western Australia of £538. The expenditure in London was £124., and the interest on loans £1,479. The directors have waived their claim to fees for the period. In the latter part of last year some further prospecting work was done on the Sugarloaf and Ormuz leases, but no satisfactory results were obtained. A tribute was also afterwards let, but abandoned early in the year. The abandonment of the company's mining leases became a necessity, and a machinery area and water right were applied for, which protects the company's machinery and all the important buildings, thus affording time either for the realisation of same or their transfer to some other property in exchange for an interest therein. Up to the present, however, no suitable opportunity has presented itself in this latter respect.

Copper Statistics.—Messrs. James Lewis and Son, in their mid-monthly report on copper, state that shipments of copper from the United States to Europe and China continue on a large scale, and the surplus stock held by producers must now be materially reduced. American production and imports are curtailed to the extent of fully 20,000 tons per month—or 50%—that of Montana being less than one-third of its normal output. In addition to the Greene mine in Mexico it is stated that the mines of the Guggenheim Company and of the American Smelting and Refining Company are now practically closed. The reduction in the boundary district of British Columbia represents about 1,000 tons per month. Exports since September 30 have been at the rate of over 33,500 tons per month. Allowing for a reduction in the home consumption of one-half—or 12,500 tons—the excess of production and imports shows a surplus for export of 7,500 tons. It would therefore appear that the surplus stocks have been undergoing reduction at the rate of about 26,000 tons per month. If this continues for another three or four months, and the financial position in the United States improves, followed by a revival in trade, an actual scarcity of copper seems then to be quite possible—if not probable. Consumption in England and France, and exports of manufactured copper from England continue good, and manufacturers have been very busy with orders freely booked at the low level to which prices have fallen since October 1. In Germany the exceptional activity in trade which prevailed earlier in the year shows signs of diminution. Last year the consumption of Europe and export of imported copper exceeded 1,000 tons per day.

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SUPERPHOSPHATES IN RUSSIA.

THE consumption of chemical fertilisers tends to increase considerably in the regions of Riga and Libau, according to a recent report of the French Consul at Riga. The large agricultural syndicates founded by the German landowners; the "Consumverein" of Libau, which has a branch at Riga; and the "Jelbsthilfe" have been the means of extending the use of these products. In addition several small agricultural companies, formed some years ago and which are now contemplating amalgamation into one concern, have done much to teach the peasants the value of chemical fertilisers and to facilitate their purchase. The ports of Riga and Libau import chemical fertilisers not only for the neighbouring districts, but also for nearly half Russia, which country is, and will be for some time to come, dependent for this commodity on foreign sources. Figures quoted by the *Chamber of Commerce Journal* show that of the 1,264,000 quintals of chemical manures imported into Russia in 1906, 438,000 quintals were imported through Riga and 162,000 through Libau. In phosphatic manures Riga imported, in 1906, 67,000 quintals of natural phosphates from Algeria and Tunis, three-fifths of this quantity being imported directly and two-fifths through Germany and England; in addition, 98,000 quintals of superphosphate were imported as well as 209,000 quintals of Thomas slag. Through Libau 41,000 quintals of superphosphate and 90,500 quintals of slag were imported. The French Consul states, however, that he has reason to believe that there is some confusion in the Customs returns. According to the officially published statistics 55% of the superphosphate imported at Riga came from Germany, 36% from Holland, and 9% from England; whilst 73% of the Thomas slag came from England and 27% from Belgium. The chemical manure merchants and shipbrokers in Riga, however, agree in declaring that the largest quantity of superphosphate is imported from England, notably Hull, and the largest quantity of Thomas slag from Germany, particularly Stettin. Superphosphate is sold under the name of its country of origin, German, English, Dutch, and Belgian, the English being the most highly esteemed. Prices vary according to the percentage of phosphoric acid, which may be from 8 to 20%, the usual quality containing from 13 to 14%. The latter is sold at 3 roubles 30 (6s. 11d.) per sack of 98 kilos., with a rebate of 10 kopecks (2½d.) per sack for cash, 5 kopecks for payment within five weeks, but interest at 8% is charged when payment is delayed more than seven weeks. The Customs duties are 7½ kopecks per poud gross, other expenses on arrival 2 kopecks—that is, about 11½d. and 3d. per quintal. The trade in superphosphate is done chiefly through the agricultural companies referred to above. The firm of G. Schwartz and Co. sells English products exclusively, and the firm of Simon Kahn, Belgian and Dutch products. At St. Petersburg there is a large manufactory of superphosphate which does a good business at Riga. Near Riga, at Mühlgraben, the factory of Höflinger and Co. is producing more and more yearly. Nevertheless, the consumption grows to an equal extent, so that the quantity of the total imports of superphosphate and Thomas slag taken together has been maintained with little variation during the last five or six years.

MR. THOMAS BERRY, head of the firm of Messrs. William Berry, Limited, blacking and boot polish manufacturers, of Manchester and London, who died on August 31, left estate valued at £350,737. gross, with net personalty £168,139.

COPIAPO MINING CO.—The report for the year ended June 30 states that the sum of £2,558. was received from working the mines and estate, but the outgo amounted to £7,654., leaving a debit at profit and loss account of £5,096. During the first half of the twelve months under review (July to December, 1906) the Dulcinea Mine was worked under the old system of the late management—viz., by picking and sorting the ore. In that period the ore produced was disposed of to the smelting establishments in Chili and England. From January 1, 1907, sales of ore were suspended, and the work of clearing out the old workings, extending development, and effecting the various improvements necessary for an increased output was taken in hand. During these operations, up to June 30, 4,506 tons of ore, with an estimated copper average of 5%, were mined, and some promising ground opened up, which has enabled the manager to report an increase in the reserves of ore.

Stock and Share List.

Amount of Stock or Number of Shares Issued.	Nominal Amount.	Paid.	COMPANIES.	Closing Price Tuesday, Dec. 24.
120,000	1		Bell's Asbestos ... ord	1⅞ 2
	Stock	100	Bo ax Consol 4½% deb. stock red	109
80,000	10	10	Do 5½% cum. pref.	10¾
1,356,477	1		Bradford Dyers ... ord.	23/3
1,50 ,000	1		Do. .. 5% c.p	20/10½
35,000	10	10	British Dyewood ... ,,	3⅞ 4⅛
600,000	1		British Oil & Cake Mills ord.	12/3 12,9
235,000	1	17/-	Broxburn Oil, Ltd. ... ,,	38/-
10,000	10	10	Do. ... 6% c p.	11 15/16
1,962,870	1	1	Brunner, Mond and Co. ord.	4⅞ 4 5/16
82 678	10	10	Do. 7% pref	16¼ 16½
96,000	5	5	Bryant and May ... c.p.	12¼
40 000	10	10	Buxton Lime Firms ord.	5¼ 6¼
352,500	5/-	5/	Cassel Cyanide Co., Ltd. ,,	22/
450,000	1	1	Castner Kellner ... ,,	25/9 26/-
16,000	5	5	Clayton Aniline ... ,,	3 4
12,000	5	5	Do. ... 6% c.p	3¼ 4
6,000	6	3	Cleveland Salt ... 6% m p.	2⅝ 2⅞
20,000	10	10	Crosfield J., and Sons c.p	9⅞ 10
85,000	1	1	Fletcher, Russell, & Co. ord	27/6 28/6
5,000	10	10	Do. 6% c.p	11¼ 12
£15,223,235	Stock	100	Gas Light and Coke Co. ord.	94½ 95½
50,000	10	10	India Rubber Co. ... ,,	15¼ 16¼
	5	5	Lagunas Nitrate ... ,,	2¼ 3
3,500	10	10	Laidlaw, Mackill, and Co. ,,	8
	5	5	Lautaro Nitrate ... ,,	10¾ 11¼
200,000	10	10	Lever Bros. ... 5% c.p.	10⅞ 11⅛
400,000	10	10	Manchester Ship Canal ord.	20/6
400 000	10	10	Do. per 5% pref.	30 6 31/-
120,000	1	1	Mandelberg J. & Co. ord	31/- 32/-
185,150	1	1	Mason and Barry ... ,,	2⅞ 3⅛
134,694	10	10	Nitrate Railways ... ,,	8½ 9
228,540	10	10	Nobel Dynamite Trust ,,	15¼ 16¼
	10	10	Do. share warrants	15½ 16
200,000	1	17/	Oakbank Oil, Ltd. ... ord	30/-
	1		Pears, A. and F. ... ,,	30/-
70,000	10	10	Pease and Partners ... ,,	11 11½
37.500	16	16	Price's Patent Candle ,,	32 34
130,000	1	17/	Pumpherston Oil, Ltd. ,,	13¼
10,000	10	10	Do. 6% c.p.	13
375,000	5	5	Rio Tinto ... ... ord.	66¼
2,500	7½	7½	Robin and Houston ... 5% c.p	76/6
196,962	1	14/4	Sadler and Co. ... ord	3/3 3/9
200,000	4	4	Salt Union ... ... ,,	18/0 19/-
100, 00	6	6	Do. ... 7% n.c.p.	4 11/16 4 15/16
£148,000	1	1	Sanitas Co., Ltd. ... ord.	1 1⅛
	4	4	San Jorge Nitrate ... ,,	⅝ ¾
	1	1	Schibaieff Petroleum ,,	7/32 9/32
£6,250 000	Stock	100	South Metropolitan Gas ,,	119 121
45,000	10	10	Steiner, F and Co. 5% c p.	8⅞ 9⅛
625,000	2	2	Tharsis Sulphur & Copper ,,	6 6½
289,343	10	10	United A kali ... ord	77/- 78/-
282 524	10	10	Do. ... 7% pref.	11¼ 11⅜
80,000	1	1	United Indigo & Chemical ord	3/6
66,66	5	5	Willans and Robinson ,,	1 5/16 1 5/16
210.000	1	1	Woolcombers ... 7% c.p.	19/ 19,6
113,202	4	4	Young's Paraffin ... ord.	68/-

THE LONDON AND HULL SOAP WORKS, LTD.—Application was made last week by the Humber Coal Company for a compulsory winding-up order in the matter of the London and Hull Soap Works, Ltd. Mr. Percy Wheeler, on behalf of the petition, said a resolution was passed by the company in October last in favour of voluntary liquidation, and they appointed Mr. Ellis, their secretary, the liquidator. The company was formed with a capital of £38,974., of which £8,000. was paid for goodwill, £8,000. to satisfy a mortgage, the remander being issued in fully-paid shares. The petitioner alleged that the prospectus was false and misleading; that far too much had been paid for the property. The allegations of petitioner were controverted by Mr. Buckmaster, K.C., and his Lordship said this was not a case for a compulsory order.—His Lordship also refused the application for an order of supervision.

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THE CHEMICAL SOCIETY.

At a recent meeting of the Chemical Society a paper by Mr. and Mrs. H. Brereton Baker was read, dealing with Gaseous Nitrogen Trioxide. The intention of the joint authors was to discover whether the dissociation of liquid nitrogen trioxide into nitrogen peroxide and nitric oxide, which happens when the liquid is permitted to evaporate in the ordinary way, also occurs in the case of absolutely water-free liquid. The gas was prepared from white arsenic and nitric acid, dried over phosphorous pentoxide, and eventually liquefied and sealed off in a series of small bulbs cleverly blown on a single length of capillary tubing. The pure liquid nitrogen trioxide so obtained is of a green colour at ordinary temperatures, but changes to "Oxford Blue" at about 30° C. It cannot be dissolved in water, but when brought into contact with the latter it gradually dissociates, forming nitrogen peroxide, which then dissolves. The perfectly dry gas obtained by the evaporation of the fluid indicates by its density that its composition is chiefly N_2O_3 molecules with a quantity of N_4O_6 molecules.

A paper on "The Atomic Weight of Tellurium," by Mr. Baker, in conjunction with Mr. Bennett, was also read. During Mr. Baker's research into the non-reactivity of perfectly dry materials, he found that tellurium, dried very carefully, still reacted with oxygen and the halogens, and as tellurium appears to be abnormally placed in the periodic table, it seemed quite feasible that the anomalies referred to in this and the previous paper might be due to the association of an undiscovered element with tellurium. Exhaustive and minute fractionations of a considerable quantity of tellurium compounds have been compiled during the researches, but up to the present no results have been attained proving that the atomic weight of the element tellurium is incorrect.

Mr. Godby read a paper on "The Isomerism of the Double Sulphites of Sodium and Potassium." The author demonstrated that salts in which the metal is joined directly to sulphur do not occur. Mr. Lattey contributed papers on (1) "The Vapour-pressures of Amines and their Mixtures with Water," and (2) "Liquid Triethylamine."

Wages in the Coal Trade.—Lord James, the independent chairman of the Conciliation Board for the coal trade in the federated districts of England and North Wales, has made an award under which miners' wages will be advanced by 5% from the first making-up day in the new year. This is the fourth advance of 5% during the last twelve months, and the maximum specified in the agreement under which the Board was formed last December, for three years, has now been reached. The South Wales miners are also receiving the maximum under their agreement. Scottish miners' wages have been advanced as much as 40% during the year, and they are now 87½%—as against 60% in England and Wales—above the standard of 1888.

The New Austrian Commercial Treaties.—Reporting on the effects of new commercial treaties in Austria, U. S. Consul-General W. A. Rubbe (Vienna) observes that the new commercial treaties with Germany, Russia, Italy, Switzerland, and Belgium, went into effect early in 1906 and have not caused any diminution in the export trade of Austria, though it had been anticipated that the higher schedules in certain classes of goods might mitigate against the expansion of foreign trade. Exports have shown a steady and satisfactory development, and the fear of loss of trade has been proved to be groundless. Export trade, too, has been conducted at higher prices in several instances. One encouraging development under the new Austrian tariff law, which went into effect in 1906, has been that many industries have expanded materially, which is ascribed to the general prosperity. An instance of this is that at least 200,000 additional cotton spindles are in use for the production of the finer sorts of cotton goods, and that several foreign firms have built branch factories in Austria. In the paper industry a marked increase in the cost of raw material took place, causing an average increase in the prices of the finished product of between 10 and 15%, but the demand for all grades of paper is so great that most of the paper mills are running to their full capacity and are unable to accept orders for delivery under three or four months. The production of raw sugar in Austria for the year 1906 was the greatest ever recorded. On account of the large production the price was extremely low, and the financial results were unfavourable, both in the raw and the refined product.

NEW YORK PRICES CURRENT.

Dec. 10, 1907.

Prepared for this Journal by Messrs. Stanley Jordan and Co., 100, William-street, New York.

(*The values are at ship's side, usual ports, unless otherwise stated.*)

		$ c.
Acids, Acetic (commercial 28%) package extra	per 100 lbs.	2 50
„ Carbolic (crude, 60%)	per gallon	0 43
„ „ (crystallised, 40°)	per lb.	0 13
„ „ (liquid, 95-97%)	per gallon	0 32
„ Oxalic	per lb.	0 6½
„ Picric	„	0 22
„ Tartaric	„	0 27½
Arsenic, white powdered, English	„	6 to 6½
„ „ „ Continental	„	6 to 6½
Ammonia, Carbonate, lump	„	0 7½
„ Muriate, grey	„	0 6
„ „ white electrical	„	0 6
„ Sal-ammoniac, white seconds	„	0 9½
„ Sulphate, grey	per 100 lbs.	3 10
Aniline Salt	per lb.	0 9½
Bleaching Powder, 35%, English	per 100 lbs.	1 30
„ „ „ Continental	„	1 30
„ „ „ American	„	1 25
Calcium Chloride	„	0 60
China Clay, English	per ton	11 0
„ „ American	„	8 0
Copper Sulphate	per lb.	0 5½
Potassium, Bichromate	„	0 8½
„ Carbonate, 90%	„	0 4½
„ Chlorate	„	0 9
„ Cyanide	„	0 18
„ Hydrate (caustic potash), 75-80%	„	0 4½
„ Permanganate	„	0 9½
„ Prussiate Yellow	„	0 15½
Sodium, Carbonate, 58%, bags, f.o.r. works	per 100 lbs.	0 92½
„ Soda Crystals, f.o.r. works	„	0 60
„ Bichromate	per lb.	0 7½
„ Chlorate	„	0 8½
„ Hydrate (76% caustic soda), f.o.r. works	per 100 lbs.	2 05
„ Hyposulphite	„	1 35
„ Nitrate	„	2 50
„ Phosphate	„	1 95
„ Prussiate	per lb.	0 9½
Sulphur, Brimstone (best thirds)	per ton	20 0

The Salt Monopoly in Japan.—The British Embassy at Tokio reports that the working of the Japanese Government salt monopoly during the last two years has caused discontent amongst consumers owing to the high prices of the commodity, and disappointment to the authorities on account of the small revenue produced by the monopoly. The Government, therefore, has now arranged to sell direct to retail dealers, and the guild of wholesale merchants has pledged itself to uphold the measure.

Nigeria Bitumen Corporation.—Mr. J. S. Bergheim, presiding over a meeting of shareholders last week, said the total available cash balance on June 30 to test and work the properties was £40,000. He considered that the time had come when their partners, the Government, should come to the Company's assistance. The Company had spent a lot of money in the country. It was the duty of the Government now to begin exploring on their own account. The Company were quite willing to assist them. If oil was struck, the shareholders would make money, but it was nothing compared with what the British Government and nation would make. The amount could not be calculated; it would run into millions.

Market Reports.

THE RUSSIAN CHEMICAL MARKETS.

The St. Petersburg chemical report of December 14 states that prices for the most important items have undergone no change. Nitric acid, 36° Bé., is quoted 3 roubles to 3 roubles 20 copecks; borax crystals, 4r. 40c. to 4r. 80c.; chloride of lime, 1r. 45c. to

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1r. 60c.; red potash, 30r.; sulphate of copper, 6r. 50c. to 6r. 60c.; salammoniac, 7r. 50c. to 7r. 60c.; potash (Saratoff), 2r. 75c. to 2r. 85c.; Chili saltpetre, 1r. 95c. to 2r.; ammonia soda, 1r. 35c. to 1r. 40c.; caustic soda, 2r. 65c.; muriatic acid, 55c. to 65c.; tartaric acid, 24r. 50c. to 25r. 50c.; superphosphate, 16-17%, 65c. to 70c.; lump sulphur, 1r. to 1r. 5c.; sulphuric acid, 66° Bé., 85c. to 95c.; bichromate of potash, 8r. 40c. to 8r. 60c.—all per pood of 36 lbs.

THE AMERICAN CHEMICAL MARKET.

(Rate of Exchange, $4.86\frac{3}{4} = £1.$)

NEW YORK, DECEMBER 10, 1907.

Nitrate of soda is quoted on spot at $2.32½., and shipments at $2.15. per 100 lbs. Sulphate of ammonia is steady but dull, at $3.05. per 100 lbs. Grey muriate, for galvanising, is 5½c. to 6c. per lb., according to make, and white electrical within about the same range. Lump carbonate of ammonia is 7¾c. to 8c. per lb., with powdered nominally 1c. per lb. higher. Lump sal ammoniac, good white seconds, is 9½c. per lb. Bleaching powders are dull at $1.20. to $1.30. per 100 lbs., as to make. Alkali is unchanged at 90c. per 100 lbs., f.o.r. makers' works, for light 58% in bags. Caustic soda, 74%, is $2.05. per 100 lbs., same conditions. Sulphate of copper, 5½c. to 5¾c. per lb. White powdered arsenic lower, at 5¾c. to 6c. per lb., with business very slack. Red Saxony arsenic is fairly firm, at 7⅜c. per lb. Carbonate of potash, calcined, 80-85%, 3¾c. per lb., and hydrated, 4½c. per lb. Caustic potash, 75%, 4¾c. per lb. Chlorates of potash and soda are unchanged under Syndicate control at 8¼c. and 8½c. per lb., respectively, f.o.r. makers' works. Bichromates are well maintained in value at 7½c. per lb. for soda, and 8⅝c. per lb. for potash. Prussiate of soda is somewhat firmer but dull, at 9½c. per lb., while potash remains at 5½c. per lb. Phosphate of soda is stronger at $2.05. per 100 lbs. Oxalic acid is very weak, and is quoted down to 6½c. per lb. Business in general is slow, and prices in almost all lines have a downward tendency.

TAR AND AMMONIA PRODUCTS.

TUESDAY.

Benzols: quotations given at 8½d. to 8¾d. for 90's, and 8¼d. to 8½d. for 50-90's, casks included. Crude tar, 13s. 6d. to 17s. 6d. per ton, Thames; 1½d. to 1⅝d. per gallon delivered. Refined tar, 12s. per barrel. Gas Company, 12s. 6d. Pitch, 22s. to 22s. 6d., f.o.b. Gas Company, 24s. 6d. East Coast, 20s. 6d. to 21s. West Coast, 20s. to 20s. 6d., f.a.s. Refined naphthalene, £6. 10s. to £8. 10s., packages included. Toluol, 90%, 9d. to 9½d.; pure, 1s. 1d., casks included. Carbolic acid, crude, 50% 1s. 4d. to 1s. 5d.; 60%, 1s. 7d. to 1s. 7½d.; Crystals, 29-40, 4¾d. to 5d.; 34-35, 4½d. to 4¾d. Cresylic, 95%, 1s. 0½d. to 1s. 1d. Anthracene, 40 to 45%A, 1½d. to 1¾d., casks incuded. Pyridin,, 3s. 3d. to 3s. 6d.

Sulphate of ammonia weak. Nearest values are:—Beckton, spot and forwar d £12. 2s. 6d. to £12. 5s.; Beckton terms £11. 13s. 9d. to £11. 15s.; London, £11. 13s. 9d. Hull, £11. 15s.; Liverpool, £11. 16s. 3d. to £11. 17s. 6d.; Manchester, £11. 13s. 9d. to £11. 15s.; Leith, £12.

Nitrate of soda, ordinary, 11s. 3d., and refined, 11s. 6d.; Liverpool, ordinary, 11s. 6d., and refined, 11s. 9d.

LONDON METAL MARKETS.

TUESDAY.

Copper: Standard brands, £60. 10s. to £60. 15s. cash, and £61. 15s. to £62. for three months. Tin: G.M. quality, £122. 15s. to £123. 5s. cash, and £124. to £124. 10s. three months; English, £125. to £126.; Banca, fl77½. Lead: Soft foreign, prompt, £14. 12s. 6d.; March, £15.; English, £15. Spelter: Ordinary brands, December, £19. 15s.; January, £19. 15s.; February, £19. 15s.; April, £19. 10s., ex ship; hard, £16. 10s., f.o.b. Antimony, £33. to £34.; crude, £19. 10s.; ore, £8. 10s. to £9. Bismuth, 6s. 6d. Quicksilver, £8. 5s.; seconds, £8. 3s. 9d. Nickel, 1s. 10d. per lb. Aluminium, £100. Wolfram, nominal, 25s. Pig-iron closing prices: Cleveland, 49s. 6d. one month; 48s. 10½d. three months.

FERTILISER MATERIALS.

TUESDAY.

The usual holiday feeling is now making itself manifest, and there is little business passing in any branch of the manure trade.

There is nothing new to report regarding mineral phosphates.

Nitrate of soda has advanced rather suddenly, and to-day's quotations, on spot, are 11s. 6d. per cwt. for ordinary 95% quality, and 11s. 7½d. for refined.

East Indian bone meal remains unchanged at £5. per ton, nett cash, c.i.f. Liverpool, for shipment; and at £5. 5s. to £5. 10s. per ton ex store here, on spot.

MISCELLANEOUS CHEMICAL MARKET.

TUESDAY.

As usual at this period of the year, the course of business is to some extent interrupted by the holidays, and the markets generally are inactive. Prices on the whole are steady, and any fluctuations during the week have been of unimportant character. In the alkali trade the quotations for all the principal products stand practically unchanged: Sulphate of copper is firm at £22. 5s., f.o.b., for early spring d livery; caustic soda, 70%, £10. 15s., f.o.b.; alkali, 58% (in bags), £4. 10s., f.o.r.; soda crystals (in bags), 57s. 6d. per ton; saltcake, in bulk, is in good request at 42s. 6d. per ton, carriage paid; sulphur, in bulk, £4. 17s. 6d. per ton, f.o.r.; bleaching powder is quiet, at £4. 7s. 6d., f.o.r. and f.o.b. Chlorates firm, at 3½d. per lb. There is good demand for potash, caustic and carbonate, at £24. and £19. 10s. respectively. Acetate of lime is steady, at £11. 10s. for 80%, c.i.f. Other acetates are unchanged. Acetic acids are selling freely. Prussiates of soda and potash are fairly active at 3½d. and 5¾d. per lb. White powdered arsenic is firm, at £26. to £27., according to brand. Ammonia and salts of ammonia are generally in good request.

LIVERPOOL OIL MARKET.

TUESDAY.

Palm oil brisker, with small sales of Saltpond, on spot and for December delivery, at £25. 5s., and Congo for early arrival at £25. 15s., and hard oils for December-January delivery at £26. per ton., all in transit. Linseed oil steady, with quotations given at 23s. 9d. to 24s. 6d. per cwt., for Liverpool makes in exports casks, according to quality. Cottonseed oil in fair demand at 23s. 9d. to 24s. 9d. for Liverpool refined in export barrels. Tallow quiet. Turpentine dull at 34s. per cwt. for spot parcels. Petroleum: A fair business is being transacted in refined oils, with values given at 7d. for Russian and Roumanian, and 7½d. to 8½d. per gallon for American refined oils. Petroleum spirit steady, at 1s. 0½d. to 1s. 3d. per gallon, according to grade, for American.

LIVERPOOL DRYSALTERIES.

TUESDAY.

Montreal potashes and pearl ash nominal, with nothing doing. Logwood steady, but in little demand. Fustic quiet. Cutch little inquired for, but values are maintained. Gums: Soudan arabic has a quiet market with the tendency against sellers, but holders of Niger remain steady. Gambier is experiencing only a quiet demand, but quotations are unchanged at 20s. 6d. to 21s. for block, *re* weights or store, 20s. for October-November shipment, 19s. 3d. for November-December shipment, 17s. 9d. for December-January, and 17s. 6d. for January-March shipment; with cubes offering from the quay at 28s. to 28s. 6d., in store at 28s. 6d. to 29s., October-November shipment at 28s., November-December at 27s. 3d., and December-January at 27s. per cwt. Castor oil is brisker, with quotations given as follows:—Good seconds, Calcutta, 3 5/16d. to 3⅜d.; store parcels, 3 5/16d.; first pressure Belgian, 3 7/16d.; first pressure French 3¾d., and 3¼d. for second pressure French. Shellac quiet, but steady in all positions, sales including fair TN orange, on spot, at 120s. to 122s. 6d. for fair, and for arrival January-March shipment 120s., c.i.f. Glucose steady: American liquid, 43%, on spot, 11s. 9d., and January-March delivery 11s. 3d., January-March shipment 9s., c.i.f.; Union Jack crystals, January-March delivery offered at 11s. 3d., ex works, London; chips, 80%, for shipment, 9s., and 70% 9s., c.i.f. American powdered starch on spot, 11s., and for shipment, 10s. 6d., c.i.f. Pearl, on spot, 10s. 9d., and for shipment, 10s., c.i.f. Cream of tartar, 98%, foreign powder, 8s.; 95%, 85s. Tartaric acid: English, on spot, 11¼d.; foreign, 11d. Citric acid, 1s. 8d.; foreign, 1s. 8d.

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HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—During the week linseed oil has declined most having lost 15s. per ton. Refined cotton oil is steady. Turpentine is very weak, and has lost 25s. per ton. Rosin closes weak and in favour of buyers. Amongst the principal imports here to date, as against a year ago, are:—Wheat, 4,005,642 qrs., against 3,817,312 qrs.; flour, 208,631 cwt., against 345,910 cwts.; linseed, 794,897 qrs., against 574,450 qrs.; rapeseed, 103,199 qrs., against 127,988 qrs.; cottonseed, Egyptian, 194,485 tons, against 170,326 tons; other kinds, 152,927 tons, against 113,774 tons; oilcake, 26,748 tons, against 42,126 tons; hemp, 133,751 cwts., against 157,007 cwts.; olive oil, 3,881 tuns, against 3,632 tuns; tar, 14,909 barrels, against 13,691 barrels; linseed oil closes 20s. 10½d., naked, spot, 20s. 3d. January-April, 19s. 1½d. May-August, boiled and refined £1. to £1. 10s. per ton extra. Exports during the week have been:—5 tons Germany, 3 Norway, 5 Turkey; total, 13 tons. Refined cotton oil 20s. 7½d., spot, naked, 21s. 3d. January-April; crude oil is quoted 19s. 4½d., spot; casks £1., barrels £1. 10s. per ton extra. Exports during the week:—44 tons Belgium, 111 France, 45 Germany, 76 Holland, 17 Sweden, 21 Turkey; total, 314 tons. Rape oil, brown, 32s., naked, spot. Spirits of turpentine, 33s. 9d.; Russian ditto, 18s. 6d. Caster oil unchanged. Rosins from 9s., according to grade. Cod oil, £16. to £19. per ton.

CAKES.—Steady for all kinds. Linseed, 95% pure, £7. 15s. to £7. 17s. 6d.; Russian, £7. 12s. 6d.; Canadian, £7. 17s. 6d. Oilcakes (linseed), £6. 15s. Cotton cakes, best, £4. 17s. 6d.; Bombay, £4. 7s. 6d. Rape meal unchanged.

PAINTS.—Quiet with markets more in favour of manufacturers, which, however, comes too late to be of much value this year. Prices generally unchanged, and according to make and quality.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

The general market closes for the holidays (which are rather more protracted in Scotland than in England, encroaching more or less well into the first week of the new year) with a fairly steady feeling, so far as the maintenance of values is concerned, though with a gradually decreasing volume of transactions done and deliveries carried through. The tendency in sulphate of copper just before the close has been slightly to the mending side, with prompt price a shade better and rather more of inquiry for new year delivery, January to March. Values are about steady for the ordinary heavy lines of chemicals, but movement in deliveries has been getting smaller, as expected. In the section of mineral oils, solid paraffins and paraffin spirit (all of Scotch make), the year closes with a healthy tone all round, from the manufacturer's point of view, with recent values steady or tending upwards.

Chief prices current are:—Alum (in lump), £5. 5s. to £6. 5s., nett, ex quay, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d.; and 1-cwt. casks £6. 15s., nett, Liverpool; bichromate of potash (home-make), 3½d., less 2½% for Scotch and English deliveries (for export, 3¼d. nett, f.o.b. Glasgow); bichromate of soda (home-make), 3d., less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); bleaching powder, 35-37°, £4. 15s. to £5., nett, Tyne; borax, English refined, £16., and boracic acid, £25., nett, Glasgow; caustic soda, white, 76°, £11.; 70-72°, £10. 5s.; 60-62°, £9. 5s.; and cream, 60-62°, £9. 5s., all nett, Liverpool; chlorate of potash, 3¾d., nett, Glasgow; creosote (ordinary coal-tar and blast furnace), 2¾d. to 3d., naked, f.a.s. Glasgow; nitrate of soda 11s. 9d.; paraffin scale, hard, 2d. to 2¼d.; and soft, 2¾d. to 2½d. per lb.; paraffin wax, 120°, semi-refined, 3d. to 3½d.; paraffin spirit (naphtha), 10d. to 11d. per gallon; paraffin oil (burning), special quality, 7d.; ordinary sorts, 6¾d. and 6½d. (for new spot business), at Glasgow and other big centres; ditto (lubricating) 865°, £6. to £6. 5s.; 885°, £6. 15s. to £7.; 890-895°, £7. 10s. to £8.; prussiate of potash, 5¾d. to 6d., nett, f.a.s. Glasgow; salammoniac, first and second white, £42. and £40., less 2½% any port; saltcake, 42s. 6d.; soda ash, £5. 10s. to £5. 15s., nett, Tyne; soda crystals, £2. 17s. 6d. to £3.; sulphate of ammonia, £12. to £12. 1s. 3d. prompt, f.o.b. Leith; sulphate of copper, £22. 5s. to £22. 10s., less 5% Liverpool, prompt.

TYNE CHEMICAL REPORT.

Tuesday.

Chemicals continue in fairly steady demand, though shipments as usual at this period are showing signs of falling off. Caustic soda is steady at £10. 5s. for 70%, and £11. per ton for 76-77%. Bleaching powder is scarce and firm, at £5. to £5. 5s. per ton. Soda crystals locally quiet at £2. 17s. 6d. to £3. per ton, gross weights. Sulphur firm at £5. 5s. per ton.

Bleaching powder, softs, £5. 5s. per ton, nett; do., hards, £5. 10s. per ton, nett; caustic soda, 76-77%, £11. per ton, nett; do., 70%, £10. 5s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 5s. per ton, nett; alkali, 30%, £4. 17s. 6d. per ton, nett; do., 36%, £5. 2s. 6d. per ton, nett; do., 40%, £5. 7s. 6d. per ton, nett; hyposulphite of soda, 5/7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £3. 10s. per ton, nett; do., 100° Tw., £3. 17s. 6d. per ton, nett; do., 140° Tw., £4. 7s. 6d. per ton, nett; soda crystals, casks, £3. 2s. 6d. per ton, gross weight; do., 2 cwt. bags, £3. 2s. 6d. per ton, nett; sulphate of soda (saltcake), £2. 5s. per ton, nett; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £4. per ton, nett; blanc fixe, £6. per ton, nett; chloride of barium, refined crystals, £7. 10s. per ton, nett; do., crude calcined, £7. 5s. per ton, nett; sulphide of sodium crystals, £5. 15s. per ton, nett; do., refined concentrated solid, 60-62%, £8. per ton nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett; hydrate of barium, fused, 56-60%, £13. per ton, nett; do., crystals, 45-48%, £12. per ton, nett; strontium hydrate crystals, 90-95%, £8. 10s. per ton, nett; do., carbonate, 90-95%, £10. 15s. per ton, nett.

COALS.—The coal business of this district is now practically filled up for remainder of the year, and buyers seem now inclined to wait until after the turn of the year, as the impression is that prices generally are weakening. Quotations nominally to-day:—Best Northumbrian steam, 13s. to 13s. 6d. per ton; second qualities, 12s. 6d. to 12s. 9d. per ton; small coals, 8s. 9d to 9s. per ton; Northumberland unscreened, 10s. to 11s. per ton; best gas coals, 14s. 6d. to 15s. per ton; Durham bunkers, 12s. 3d. to 12s. 9d. per ton; household coals, 15s. 6d. to 16s. 6d. per ton; foundry coke, 19s.

New Companies.

Ameliorated Oil Co., Ltd.—Capital £50,000., in £1. shares. This company has been formed to carry on the business of oil and petrol producers, manufacturers, refiners and converters, manipulators of and wholesale and retail dealers in benzol, alcohol, spirits, gas, acids, chemicals, alkalis, unguents and ingredients, etc., and to enter into two agreements between R. Wynne and the B.W.P. Syndicate, Ltd. No initial public issue. The first directors are to be appointed by the subscribers; qualification 100 shares. Registered office, 10, Serjeants' Inn, Fleet-street, E.C.

Clements Lead Mines, Ltd.—Capital £150,000., in £1. shares. This company has been formed to acquire and turn to account mines and property. The first directors are not named; qualification, £250.; remuneration, £150. each per annum (chairman £200.). Registered office, 140, W. Regent-street, Glasgow.

W. Everitt, Ltd.—Capital £10,000., in £1. shares (2,500 deferred). This company has been formed to take over the business of an analyst and manufacturing chemist, carried on by W. Everitt at Norwood Wharf, Southall. No initial public issue. The first directors are W. Everitt (permanent managing director), E. Riley and A. C. Clandet; qualification, 100 shares. Registered office, 2, City-road, Finsbury Square, E.C.

Gare Syndicate, Ltd.—Capital £5,000., in 4,500 preferred shares of £1. each and 10,000 deferred shares of 1s. each. This company has been formed to acquire options for the purchase of patent rights and licences relating to rubber and rubber substitutes, and in particular to acquire a non-exclusive licence to work Gare's Reformed Rubber Process in the U. K., and certain options for the acquisition of the rights therein, and of Gare's Rubberite. No initial public issue. The subscribers are to appoint the first directors. Qualification (except first directors) 250 shares. Remuneration, £150. each per annum (chairman £200.). Registered office, 199, Piccadilly, W.

John Gibson and Co., Ltd.—Capital £4,000., in £1. shares (2,000 10% cumulative preference). This company has been formed to take over the business of a chemical manufacturer and merchant, drysalter and size, soap and glue manufacturer and merchant, carried on by J. Gibson at the Medlock Chemical

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Works, Commercial-street, Manchester, as John Gibson and Co. No initial public issue. The subscribers are to appoint the first directors; qualification, £50; remuneration, £25. each per annum and 25% of the surplus net profits over £400. (after providing for depreciation and reserve), divisible. Registered office, 8, Commercial-street, Manchester.

Larne Salt and Alkali Co., Ltd.—Capital £8,000., in £1. shares. This company has been formed to acquire from J. Vint, of Carrickfergus, leasehold interests and mining rights under lands in the townlands of Redhall, Ballyedward, Drummadreagh and Aldfreck, all of Lower Belfast, to prepare for market salt, brine and other minerals, and to carry on the business of manufacturers of and dealers in soap, salt, alkali, etc. No initial public issue. The first directors are J. Vint, T. Vint, and others to be appointed by the subscribers. Qualification, 100 shares. Registered office, Roberttown Chemical Works, Liversedge.

Ore Dissolving Co., Ltd.—Capital £40,300., in 40,000 ordinary shares of £1. each and 6,000 deferred shares of 1s. each. This company has been formed to acquire any mines, mining rights, and metalliferous land in France or elsewhere, to adopt an agreement with D. Dubois, and to carry on the business of manipulators of and dealers in ores, metals and mineral substances, etc. No initial public issue. The subscribers are to appoint the first directors. Qualification, £250. Remuneration, £100. each per annum (chairman £150.) and 15% of the profits available for distribution in any year when 10% is paid on the ordinary shares, divided. Registered office, 56, Cannon-street, E.C.

Plumbago Trust, Ltd.—Capital £37,500., in 2s. 6d. shares. This company has been formed to adopt an agreement with the Inverall Diamond Fields, Ltd., and to carry on the business of financiers, holders of and dealers in stocks, shares and securities, etc. No initial public issue. The first directors are J. Burns, C. F. Leighton, J. Barker, W. R. Matthews, and T. H. Larkin, Qualification, one share. Remuneration, £100. per annum, divided. Registered office, Moorgate Station Chambers, Moorfields, E.C.

Standar ise l Disinfectants Co., Ltd.—Capital £1,000., in £1. shares. This company has been formed to acquire the manufacture of and trade in the disinfectants known as Sizolin and Pynoze, hitherto carried on with India by J. H. Pope, trading as Hop[illegible], Hartope and Co., of 22, Billiter-street, E.C., etc. No initial public issue. The first directors are not named; no qualification necessary. W. Grimsey is the first secretary. Registered office, 22, [illegible]-street, E.C.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LIST OF CONTRACTIONS USED IN THE IMPORT AND EXPORT LISTS OF THE CHEMICAL TRADE JOURNAL.

Blns.	**Balloons.**	**Cbys.**	**Carboys.**	**Gals. Gls. or Glns.**	**Gallons.**	**Qnty.**	**Quantity (otherwise undeclared).**	**qr.**	**Quarters.**
Bls.	**Baled.**	**Cs. or Cs.**	**Cases.**					**lb.**	**Pounds.**
Brls.	**Barrels.**	**Cks.**	**Casks.**	**Hf. pps.**	**Half pipes.**				
Bgs.	**Bags.**	**Chts.**	**Chests.**	**Hhds.**	**Hogsheads.**	**Rnlts.**	**Runlets.**		
Btls.	**Bottles.**	**Cylds.**	**Cylinders.**	**Kgs.**	**Kegs.**	**Sks.**	**Sacks.**		
Bdls.	**Bundles.**	**Dms.**	**Drums.**	**Ozs.**	**Ounces.**	**Slbs.**	**Slabs.**		
Bskts.	**Baskets.**	**Djns.**	**Demijohns.**	**Pks.**	**Packages.**	**Tcs.**	**Tierces.**		
Bxs.	**Boxes.**	**Frkns**	**Firkins.**	**Pns. Puns.**	**Puncheons.**	**t. c.**	**Tons, Cwts.**		

Note.—There is no information available as to the net weights of the various items, nor do we recognise in them any standard.

LONDON.

Period ending December 9.

Acetic Acid—

Norway,	18 cks.	Weber, Smith & Hoare
Holland,	14	Kirkpatrick, Barr & Co.
,,	20	Greeff & Co.
,,	4	Muller & Co.

Acetone—

U.S.A.,	41 t. 16 c.	F. A. Tye

Alcohol (Methylic)—

Canada, A.,	153 gals.	Pickfords, Ld.

Alumina Sulphate—

Holland,	1 t. 18 c.	Ohlenschlager Bros.

Ammonium (Anhydrous)—

U.S.A.,	£350	Fellows, Morton & Co.

Ammonium Muriate—

Holland,	11 t.	1 c. H. Lorenz
,,	£30	A. & M. Zimmermann

Antimony Ore—

China,	100 t.	Spence & Co.
N.S.W.,	20	Gibbs & Sons

Argols—

Spain,	271 bgs.	Jacob & Sons

Barytes—

Holland,	20 cks.	M. Ashby, Ld.
Belgium,	14	Petri Bros.
,,	250 bgs.	Felton & Crepin
,,	50 cks.	Weber, Smith & Hoare
Holland,	23	Barber & Co.
,,	10	Van Dam & Co.
	54	Taylor Bros.
Germany,	21	T. H. Lee
,,	44	Harrison & Co.
Holland,	23	O. Lechla
Italy,	20	Knill & Co.
Germany,	16	Prop. Hay's Wf.
Holland,	85	Z. Cartwright
,,	44	550 bgs. Felton & Crepin
,,	82	J. Lauderdale

Benzoic Acid—

Holland,	5 cs.	London & Rhine S. Office

Bromine—

Germany,	40 cs.	A. & M. Zimmermann

Calcium Carbide—

Sweden,	463 t.	Anderson&Co.

Caoutchouc—

France,	2 t. 15 c.	L. & I. D. Jt. Co.
Ceylon,	18	,,
,,	11	Hoare, Wilson & Co.
Portugal,	1	L. & I. D. Jt. Co.
Straits,	12	,,
,,	1 19	Prop. Hay's Wf.
,,	1 16	Rowe, White & Co.
B. Guiana,	2	L. & I. D. Jt. Co.
Ceylon,	19	Props. Bull Wf.
,,	£12	Tindall & Co.
Aden,	10	Clark & Smith
Germany,	13	L. & I. D. Jt. Co.
E. Indies,	4	Perkins & Homer
France,	16	L. & I. D. Jt. Co.
U.S.A.,	27 t. 10	,,
Burmah,	1	,,
Straits,	9	Adamson, Gilfillan & Co.
Ceylon,	6	L. & I. D. Jt. Co.
,,	6	Litchfield & Soundy
Germany,	6	Clarke & Smith
Straits,	8 10	Props. Bull Wf.
Ceylon,	16	L. & I. D. Jt. Co.
France,	6	Figgis & Co.
,,	1 14	L. & I. D. Jt. Co.
Straits,	5	,,

Carbon Black—

U.S.A.,	£25	Woollett, Airey & Co.

Castor Oil—

France,	24 brls. 10 cs.	L. & I. D. Jt. Co.

Caustic Potash—

Germany,	2 dms.	Steel & Co.

Citric Acid—

France,	4 c.	B. & F. Wf. Co.

Chemicals (*otherwise undescribed*)

Germany,	£27	L. & I. D. Jt. Co.
,,	257	T. H. Lee
,,	20	R. Hermann
Belgium,	1 t. 9 c.	John Cockerill Line
,,	8	Leisler, Bock & Co.
Holland,	16	Petri Bros.
Belgium,	9	J. Harrison
Germany,	13	N. & R. Collyer
France,	172	T. H. Lee
Germany,	13	Prop. Hay's Wf.
,,	117	A. M. Zimmermann

Coal Products—

Anthine

Victoria,	1 cs.	William, Bros & Co.
Germany,	10 cks.	L. & I. D.
	3 cs.	Jt. Co.
Belgium,	18 pks.	J. Cockerill Line

Tar

N. Russia,	93 brls.	Linck, Moeller & Co.
,,	33 cks.	P. Danischewsky

Colours—

Holland,	20 bgs.	T. H. Lee
Germany,	25 dms.	British Anti-Flg. Co.
,,	12 pks.	Argo S.S. Co.
,,	9 cks.3 cs.	L. & I. D. Jt. Co.
France,	3 4	Johnson.
	4 pks.	Sons & Co.
Belgium,	13	J. Cockerill Line
Germany,	4	2 Argo S. S. Co.
U.S.A.,	27	Lunham & Moore
Germany,	25 cks.	T. H. Lee
,,	5 kgs.5	Prop. Hay's Wf.
Holland,	3 cks.	Muller & Co.
,,	5	Robinson, Roberts & Co.

Colours (Earth)—

Italy,	5 cks.	Hemingway & Co.
,,	3	Van Dam & Co.
,,	3	Lovell & Sons
Colours Earth—		
Holland,	7 cks.	Muller & Co.
,,	76 pks.	,,

Copperas—

Germany,	12 t. 10 c.	Petri Bros.

Copper Ore—

Queensl'd.,	38 t.	H. Grey, Jnr.
Pt. E. Africa,	40	Page, Son & East

Cottonseed Oil—

U.S.A.,	100 brls.	Prop. Hay's Wf.
,,	500	L. & I. D. Jt. Co.

Cream of Tartar—

France,	16 cks.	B. & F. Wf. Co.
,,	12	Kirkpatrick, Barr & Co.

Dried Blood—

A. Turkey,	1 t.	Baxter, Hoare & Co.

Dyestuffs—

Gambier

Straits,	260 bls.	Sargant & Sons

Sumac

Italy,	1,000 bgs.	J. Kitchin
,,	100	France, Fenwick & Co.

Tanners' Bark

Natal,	10 t.	J. Graves
,,	22	Boutcher, Mortimore & Co.

Valonia

A. Turkey,	10 t.	A. Piggott
,,	103	Brooksbank & Sons
,,	30	T. & H. Wilks
,,	40	Adam Bros.

Farina—

Holland,	4 t.	Bennett's Haulage Co.

Glue—

Holland,	£108	Barber & Co.
,,	124	London & Rhine S. Office
Germany,	29	Argo S.S. Co.
France,	37	Murray & Co.
,,	435	Bennett S.S. Co.
,,	38	Mory & Co.
A.-Hung.,	420	J. Grant
,,	400	Lehner & Son
Belgium,	555	Duche & Sons

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Glue—
Holland, £22 Barber & Co.
,, 62 Muller & Co.
Germany, 104 Prop. Hay's Wf.

Glue Stock—
Queensland, 2 t. 2 c. Goad, Rigg & Co.
Belgium, 13 Sheppy Glue & Chem. Wks.

Gold Ore—
Natal, £1,850 Maritime Ltge. Co.

Kainit—
Germany, 250 t. Berk & Co.

Lead Ore—
Pt. E. Africa, 50 t. Rennie & Co.

Linseed Oil—
Holland, 282 brls. Hopwood & Co.
Belgium, 10 cks. J. Ayerst
Holland, 116 brls. Goodlake & Nutter
Belgium, 33 dms. Palmer & Co.

Lithopone—
Holland, 8 cks. F. T. H. Nye
,, 8 Muller & Co.
,, 82 J. F. Lauderdale
Belgium, 100 Lyon & Co.
,, 20 Gross, Sherwood & Co.

Magnesite—
Holland, £40 W. Dunn
,, 27 Muller & Co.

Ochre—
France, 32 cks. Harrison & Co.
Aus.-Hung., 105 bgs. Claydon & Co.

Olive Oil—
France, 12 gals. Trapp & Sons
Italy, 189 A. Lloyd

Paraffin Scale—
U.S.A., 51 t. 2 c. Hill & Sons
,, 272 9 Anglo-Am. Oil Co.

Paraffin Wax—
Germany, 19 t. 4 c. Hill & Son

Phosphate of Lime—
Belgium, 240 t. Lawes' Chem. Manure Co.

Plumbago—
Italy, 250 bgs. Threadder, Son & Co.
Germany, 2 cks. Gerdes Hausen & Co.
U.S.A., 98 pks. Lunham & Moore
Ceylon, 236 brls. Brunwell & Co.
Germany, 25 cks. T. H. Lee
,, 22 Claydon & Co.
Ceylon, 40 brls Brunwell & Co.
E. Indies, 38 H. Grey, Jnr.
Ceylon, 333 Threadder, Son & Co.
U.S.A., 6 cks. Beck & Pollitzer
Germany, 2 B. Gallaway
E. Indies, 38 brls. H. Grey, Jr.
Ceylon, 24 Reckitt & Sons

Potassium Bichromate—
Holland, £40 Steel & Co.

Potassium Cyanide—
Germany, £264 Pickfords, Ltd.

Red Lead—
Holland, 80 cks. Perkins & Homer
,, 11 London & Rhine S. Office
,, 11 Muller & Co.
,, 16 F. T. H. Nye
,, 40 T. & W. Farmiloe

Ripolin—
Holland, 69 pks Phillipps & Graves

Rosin—
Portugal, 216 cks. Rosin & Turp. Impt. Co.
France, 300 Watt & Son
U.S.A., 900 brls. ,,
,, 300 Goodlake & Nutter

Saltpetre—
Germany, 5 t. Hecker & Co.

Silver Ore—
U.S.A., 8876 Ackerley & Son
,, £11,000 L. & I. D. Jt. Co.

Soap—
U.S.A., £188 Field & Co.
Belgium, 43 J. Cockerill Line
U.S.A., 905 W. Davis
,, 730 Lunham & Moore
France, 89 Mory & Co.
U.S.A., 832 Armour & Co.
Germany, 20 L. & I. D. Jt. Co.
U.S.A., 251 Am. Expt. Co.

Soap Powder—
Holland, 49 Muller & Co.
U.S.A., 106 Mercantile Ltge. Co.
,, 475 London & Rhine S. Office

Soap Stock—
Germany, £35 Prop. Hay's Wf.

Soda—
Holland, 10 t. 13 c. London & Rhine S. Office
,, 1 6 Barber & Co.
,, 5 Greeff & Co.
,, 2 10 H. Lorenz
,, 3 A. & M. Zimmermann

Sodium Bicarbonate—
Holland, 10 t. 17 c. London & Rhine S. Office
,, 20 Finkler & Co.

Starch—
Germany, 1 t. Sparkes, White & Co.
Holland, 10 Little & Johnston
,, 2 t. Kay and Mayo
Belgium, 9 2 Gardner & Co.
,, 1 Leach & Co.
,, 3 Sheldon & Co.
France, 10 10 E. & T. Pink
Holland, 2 10 Van Dam & Co.
,, 16 6 Muller & Co.
Germany, 10 Craven & Co.
Belgium, 7 Leach & Co.
France, 4 10 C. E. Wood
U.S.A., 1 1 Props. Bull Wf.
Germany, 32 Millwall Dk. Co.
Holland, 10 Pickfords, Ld.
France, 2 W. Chaplin
,, 6 Walker & Co.
,, 10 Sheldon & Co.
Germany, 2 Barber & Co.
,, 17 Bennett's Hge. Co.
Belgium, 5 14 J. Harrison
Holland, 25 Little & Johnston

Stearine—
Belgium, 5 bgs. Thomas & Son
,, 65 pks. Lunham & Moore

Sulphur—
Italy, 25 t. Jessop & Co.
,, 11 15 c. F. Smith
,, 12 4 Symonds & Co.
,, 100 Boor & Co.
,, 25 Zumbeck & Co.
,, 19 10 Taylor Bros.

Superphosphate—
Belgium, 215 t. Lawes' Chem. Co.

Tallow—
N. Zealand, 3 cks. Bank of N.Z.
S. Aust., 240 Thornett & Fehr
Queensland, 98 Goad, Rigg & Co.
N. Zealand, 44

Tartaric Acid—
Holland, 16 cks. B. & F. Wilson & Co.
,, 14 Kirkpatrick & Co.

Turpentine—
France, 250 brls. Watt & Sons

Ultramarine—
Holland, 20 cks. 4 cs. Muller & Co.
Germany, 1 2 Argo S.S. Co.

Wax—
Germany, 10 bgs. Wilkins, Campbell & Co.
,, 16 L. & I. D. Jt. Co.
France, 22 pks. Cook & Co.
Holland, 16 bgs. Muller & Co.

White Lead—
Belgium, 44 cks. Farmiloe & Sons
Holland, 5 Randall Bros.
,, 22 Muller & Co.
U.S.A., 50 brls. Taylor Bros.
Holland, 66 cks. Spies Bros.

Zinc Oxide—
U.S.A., 400 brls. M. Ashby
Holland, 88 cks. ,,
,, 200 Litchfield & Soundy
Germany, 1 Millwall Dk. Co.
,, 90 Weber, Smith & Hoare

Zinc White—
Holland, 125 cks. Spies, Bros. & Co.

LIVERPOOL.

Week ending December 14.

Albumen—
Hamburg, 5 cs.

Alkali—
Hamburg, 17 cks.

Antimony Ore—
Mollendo, 16 cks.

Barium Sulphate—
Antwerp, 71 cks. 400 bgs.

Barytes—
Antwerp, 40 cks.

Beeswax—
Conakry, 3 pks.

Bone Ash—
B. Ayres, 101 t.

Bones—
Sekondi, 60 bgs. Band & Co.

Boracite—
Panderma, 500 t.

Borate of Lime—
Mollendo, 2,421 sks. Borax Con. Co.
A'fagasta, 6,520 ,,
Mejillones, 3,413 bgs. ,,

Borax—
Arica, 361 sks. Hainsworth, Watson

Castor Oil—
Antwerp, 1 brl. Fletcher & Co.
,, 14 cs.
Calcutta, 957
Marseilles, 8 cks.

Chemicals (*otherwise undescribed*)
Bordeaux, 50 cks.

Coal Products—
Tar
Gothenburg, 50 brls.

Colours—
Hamburg, 4 pks.
Rotterdam, 13

Copper Ore—
Hamburg, 1,429 bgs.
Singapore, 2,427
Christiania, 161
Fredrikstad, 19 cks.
Mollendo, 389 sks.
Chanaral, a qnty.

Copper Precipitate—
Seville, 184 bgs. a qnty.

Cottonseed Oil—
N. Orleans, 100 brls.
New York, 1,215

Cream of Tartar—
Bordeaux, 43 cks.
Marseilles, 55

Dyestuffs—
Argols
Oporto, 49 cks. 250 bgs.
Cutch
Singapore, 606 bxs.
Dyewood
Sekondi, 7 bgs.
Dyewood Extract
Colon, 50 cs.
Logwood Extract
New York, 50 brls. R. M. S. P. O.
Myrabolans
Bombay, 1,232 bgs. Sassoon & Co.
,, 516 Graham & Co.
,, 4,248
Quebracho
B. Ayres, 100 bgs.

Dyestuffs—
Saffron
Valencia, 1 cs.
Sumac
Cartagena, 100 bls.
Tannin Extract
Halifax, 55 cks.
Bordeaux, 279 Francis & Co.
,, 157

Fish Oil—
Kobe, 2,498 cs.

Glue—
Antwerp, 20 bls.
Rotterdam, 5 cs.
St. Nazaire, 21

Gold Ore—
Chanaral, a qnty.

Iron Carbonate—
Rouen, 1 ck.

Linseed Oil—
Rotterdam, 27 brls.

Magnesite—
Amsterdam, 100 bgs.

Magnesite Ore—
Vancouver, 48 sks.

Manganese—
New York, 24 cks. Meadows & Co.

Manganese Muriate—
Hamburg, 5 brls.

Manganese Ore—
Bombay, 1,500 t.

Mineral White—
Bordeaux, 1,010 bgs.

Ochre—
Marseilles, 12 cks.

Olive Oil—
Patras, 14 cks.
Marseilles, 176 404 cs.
Seville, 6 brls.
Cartagena, 4 bdls. Paris, Son & Co.
,, 1 cs. Herederos de J.

Oxalic Acid—
Hamburg, 5 cks.

Phosphate Rock—
Brunswick, 2,512 t.

Pitch (Wood)—
Gothenburg, 10 cks. Stora K. Agency

Potash—
Hamburg, 25 dms.

Potash Lye—
Hamburg, 70 dms.

Potassium Iodide—
Kobe, 15 cs.

Potassium Permanganate—
Hamburg, 10 cs.

Pyrites—
Huelva, 8,705 t.

Pyrites (Copper)—
Mollendo, 412 sks.

Rosin—
Brunswick, 2,200 brls.
N. Orleans, 250
Pensacola, 1,002
Marseilles, 9
Bordeaux, 106 sks.

Rubber—
Hamburg, 6 pks.
Cape Lopez, 9 cks. Holt & Co.
Elobey, 3 ,,
,, 4 Hatton & Cookson
Koko Beach, 3 ,,
Bata, 1 Holt & Co.
,, 2 Hatton & Cookson
Batanga, 9 R. & W. King
Kribi, 13 Hatton & Cookson
,, 6 Holt & Co.
Duala, 5 ,,
Rio del Rey, 2 Woodin & Co.
Calabar, 4 Afn. Assn., Ld.
,, 1 Miller & Co.
,, 1 Welsh & Co.
C. C. Castle, 2 F. & A. Swanzy
Sekondi, 5 Russell & Co.
,, 10 F. & A. Swanzy
,, 7 Afrn. Assn., Ld.
,, 9 J. P. Werner
,, 8 Fischer & Co.
,, 2 Frame & Co.
,, 22

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Rubber—
Mollendo, 346 bls. Bieber & Co.
" 804 Kleinwort, Sons & Co.
" 37 A. Gibbs & Sons
Koko Town, 11 cks Bey & Co
Assinee, 6 Cie F. A. O.
Conakry, 1 Diaper & Sons
" 11 Cie F. A. O.
Bordeaux, 62 pks.
Mollendo, 32 bls. Hainsworth, Watson & Co.
M. Video, 145 pks. Knowles & Foster

Salt—
Gothenburg, 1 bg. Ingram & Co.

Saltpetre—
Hamburg, 110 pks.

Salt (Waste)—
Hamburg, 215 t.

Silver Ore—
Mollendo, 520 sks. Graham, Rowe & Co.
" 3 bgs.

Soap—
New York, a qnty.
Marseilles, 185 cs.50 pks.
Bombay, 5 J. Thompson
Halifax, 1 Lever Bros., Ld.
Cartagena, 11 Paris, Son & Co.
N. Orleans, 165 brls.

Soap Lye—
Marseilles, 20 dms. Crosfield & Sons
Santander, 40 Hill & Son

Sodium Hyposulphate—
Hamburg, 100 cks.

Sodium Nitrate—
A'fagasta, 2 sks. H. Milnes

Starch—
Antwerp, 40 cs. Fletcher & Co.
" 324
Hamburg, 80
Stettin, 20 bgs.
Marseilles, 100

Stearine—
Rotterdam, 7 bls.

Tallow—
Sydney, 89 cks.
New York, 250 185 trcs.
Tampico, 65 brls.
Tacoma, 254
Rouen, 51 bgs.
Philadelphia, 70 trcs.
Boston, 273 Lane & Co.

Tartaric Acid—
Hamburg, 6 cks.

Tin Ore—
A'fagasta, 156 bgs.
" 4,432 Banco de Chile
" 604 H. Strack
" 2,277 Titley & Co.
" 3,957 Aramayo & Co.
" 1,300 Gibbs & Co.
" 620 Bank Ang-S.
" 100 Deutsche Bank.

Wax—
Hamburg, 8 pks.
Baltimore, 1,200 bdls.

Wax (Carnauba)—
Bahia, 34 bgs.

White Lead—
New York, 30 brls. United Lead Co.

Zinc Chlorate—
New York, 3 cks. Meadows & Co.

Zinc Oxide—
Antwerp, 24 brls.
New York, 400

Zinc White—
Marseilles, 9 cks.

MANCHESTER.

Week ending December 14.

Alcohol (Wood)—
Philadelphia, 1 brl.

Ammonium Rhodanate—
Hamburg, 10 cks.

Antimony Lactate—
Hamburg, 12 cs.

Antimony Salt—
Rouen, 10 dms.
Rotterdam, 4 cks. 5 pks.

Barytes—
Rotterdam, 600 bls.
Hamburg, 22 cks.

Beta Naphthol—
Rotterdam, 17 brls.

Calcium Carbide—
Gothenburg, 635 dms.
Sarpsborg, 360

Chemicals (*otherwise undescribed*)
Rotterdam, 41 pks.
Hamburg, 123 cks. 2 cs.
Ghent, 100 bgs.

Coal Products—
Alizarine
Rotterdam, 66 pks.
Aniline Colour
Rotterdam, 40 cks.
Creosote Salts
Rotterdam, 7 dms.
Tar Salts
Rotterdam, 2 cks.

Cobalt Oxide—
Rouen, 3 cs.

Colours—
Hamburg, 2 cks.5 bls.
Rotterdam, 38 746 pks.

Colours (Earth)—
Rotterdam, 8 cks. 40 bls.
Hamburg, 10 bgs.

Cottonseed Oil—
Rotterdam, 300 brls.

Dextrine—
Hamburg, 10 bgs.

Dyestuffs—
Indigo Paste
Rotterdam, 1 brl.
Tannic Acid
Hamburg, 6 cks. 6 cs.
Tannin
Rotterdam, 5 cks.
Hamburg, 2

Farina—
Rotterdam, 1,390 bgs. 100 bls.
Stettin, 20 Brown, Gevoke & Co.
" 450

Glucose—
Stettin, 500 bgs.

Glue—
Boston, 15 brls.
60 kgs.
Hamburg, 2 cks. 210 bgs.
Rouen, 30 20
Stettin, 60
Treport, 2 100 bls.

Lime Phosphate—
Boston, 10 brls.

Litharge—
Rotterdam, 14 cks.

Oxalic Acid—
Hamburg, 22 cks.
Fredrikstad, 3 brls.

Paranitraniline—
Rotterdam, 17 cks.

Paraffin Scale—
Philadelphia, 300 brls.

Paraffin Wax—
Philadelphia, 1,371 brls.
Hamburg, 20 bgs.

Potash—
Hamburg, 65 cks. 67 dms.
Treport, 31

Potash Lye—
Hamburg, 20 dms.

Potassium Chlorate—
Treport, 12 cks.

Potassium Permanganate—
Hamburg, 10 cks.

Potassium Prussiate—
Rouen, 9 cks.

Red Lead—
Rotterdam, 6 cks.

Rosin—
Rotterdam, 10 cks.

Rubber—
Hamburg, 18 cs.

Saltpetre—
Hamburg, 30 kgs.2 brls.

Sodium Hyposulphite—
Hamburg, 40 cks.

Sodium Nitrite—
Rotterdam, 44 cks.
Treport, 48

Starch—
Hamburg, 10 cks. 110 cs.
New York, 600 bgs.
Rotterdam, 2 60 cs. 100 bgs.

Stearine—
Rouen, 20 bgs.

Ultramarine—
Rotterdam, 5 cks. 18 pks. 16 cs.

Zinc Oxide—
Hamburg, 5 cks.

HULL.

Week ending December 14.

Asbestos—
Antwerp, 4 bls
Reval, 2,744 bgs.

Barytes—
Rotterdam, 72 cks.
Antwerp, 122 322 bgs.
Bremen, 20 100

Basic Slag—
Antwerp, 200 bgs. Wilson & N. E. R. S. Co.

Calcium Carbide— 7
Dronthcim, 260 dms. Wilson, Sons & Co.

Chemicals (*otherwise undescribed*)
Hamburg, 10 brls. Wilson & N. E. R. S. Co.
Ghent, 50 bgs.
Rotterdam, 1 cs. Hull & 6 dms. Netherlands 93 pks. S. S. Co.

Coal Products—
Alizarine
Rotterdam, 5 cks.
" 99 pks. Hull & N. S.S. Co.
Aniline
Rotterdam, 257 pks.
" 1,000 Hull & N. S.S. Co.

Colours—
Hamburg, 9 pks. Wilson & N. E. R. S. Co.
Antwerp, 2 cks. " 36 pks. "
" 64

Dyestuffs—
Tannin Extract
Stettin, 20 cks. Wilson, Sons & Co.
Valonia
R'terdam, 175 t. 1 c. 941 bxs.

Farina—
Harlingen, 50 bgs. Hull & N. S.S. Co.
Rotterdam, 30

Fish Oil—
Stavanger, 50 brls. Wilson, Sons & Co.

Glue—
Antwerp, 9 bls. Wilson & N. E. R. S. Co.
Ch'tiansund, 20 cks.

Kainit—
Bremen, 134 bgs.

Linseed Oil—
Amsterdam, 215 cks.
Harlingen, 120
Rotterdam, 800 brls. Hull & N. S. S. Co.

Lithopone—
Antwerp, 8 cks. Wilson & N. E. R. S. Co.

Molasses—
Danzig, 100 brls.

Ochre—
Dunkirk, 16 cks.
Marseilles, 116

Oleine—
Antwerp, 6 cks.

Olive Oil—
Smyrna, 123 brls.

Plumbago—
Hamburg, 20 cks. Wilson & N. E. R. S. Co.

Potash—
Dunkirk, 11 dms.
Bremen, 8
Hamburg, 20

Potash—
Bremen, 50 dms. Wilson, Sons & Co.

Pyrites (Copper)—
Barreiro, 1,470 t.

Red Lead—
Rotterdam, 58 cks. Hull & N. S. S. Co.

Saltpetre—
Hamburg, 20 kgs. Wilson, & N. E. R. S. Co.

Soap—
Rotterdam, 31 pks. Hull & N. S. S. Co.
Marseilles, 3 cs. Wilson, Sons & Co.

Soda—
Ghent, 50 bgs.

Starch—
Bremen, 1,170 cs. Veltmann & Co.
Antwerp, 211
Ghent, 42 Wilson & N. E. R. S. Co.
" 31
Bremen, 582 Veltmann & Co.
Gothenburg, 34 pks. Wilson & N. E. R. S. Co.
Hamburg, 10 cks. Wilson & N. E. R. S. Co.

Tin Oxide—
Rotterdam, 4 cks. Hull & N. S. S. Co.

Turpentine—
Riga, 51 brls.

Ultramarine—
Bremen, 1 ck.

White Lead—
Rotterdam, 56 cks. Hull & N. S. S. Co.
Antwerp, 26 Wilson & N. E. R. S. Co.
Ghent, 6 brls.

Zinc Oxide—
Antwerp, 5 brls.

GLASGOW.

Week ending December 19.

Acetic Acid—
Antwerp, 5 cks.

Albumen—
Hamburg, 9 bgs.

Asbestos—
New York, 6 cs.

Barium Chloride—
Rotterdam, 150 bgs.

Barium Sulphate—
Antwerp, 36 cks. 300 bgs.

Barytes—
Hamburg, 100 bgs.

Bleaching Powder—
Hamburg, 26 cks.

Castor Oil—
Marseilles, 12 brls.
Antwerp, 122

Calcium Carbide—
Fredrikstad, 50 dms. Salvesen & Co.
Christiania, 300

Chemicals (*otherwise undescribed*)
Rotterdam, 5 cs.

Citric Acid—
Bordeaux, 4 cks.

Coal Products—
Alizarine
Rotterdam, 34 cks. 46 pks.
Aniline
Rotterdam, 17 pks.

Colours—
Rotterdam, 186 pks.

Colours (Earth)—
Huelva, 3 cks.

Cream of Tartar—
Marseilles, 19 cks.
Valencia, 10 brls.
Bordeaux, 4

Dyestuffs—
Indigo (Artificial)
Amsterdam, 10 cks.
Valonia
Smyrna, 222 t. 10 c.

Fish Oil—
Hamburg, 10 cs.

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Formic Acid—
Hamburg, 78 blns.

Glue—
New York, 146 brls.
Antwerp, 3 bgs.
Hamburg, 80

Lead Nitrate—
Rouen, 11 cks.

Linseed Oil—
Amsterdam, 146 brls.
Rotterdam, 57

Magnesia—
Hamburg, 5 cs.

Olive Oil—
Marseilles, 1 cs.
Smyrna, 180 brls.

Oxalic Acid—
Caristiania, 309 dms.
Hamburg, 8 cks.

Potash—
Hamburg, 50 duns.

Potassium Carbonate—
Antwerp, 10 cks.

Pyrites (Copper)—
Huelva, 3,200 t. Tharsis S. & C. Co.

Saltpetre—
Hamburg { 20 cs. / 35 kgs.

Salt (Waste)—
Hamburg, 500 bgs.

Soap Lyes—
Marseilles, 21 dms.

Soap Powder—
New York, 1,000 bxs.

Soda—
Hamburg, 5 cks.

Soda Crystals—
Antwerp, 30 bgs.

Sodium Acetate
Antwerp, 26 cks.

Sodium Nitrite
Rotterdam, 14 cks.

Starch—
Amsterdam, 20 bgs.
New York, 600

Starch—
Antwerp, 167 cs.
Rotterdam, 8

Stearine—
Antwerp, 190 bgs.
Rotterdam, 17 cks.

Tartar—
Hamburg, 5 cks.
Bordeaux, 82
Rotterdam, 2

Tartaric Acid—
Rotterdam, 4 cks.

Tin Oxide—
Rotterdam, 4 cks.

Ultramarine—
Rotterdam, 4 cs.

Wax—
Hamburg, 30 cs.

Wax (Carnauba)—
Hamburg, 30 bls.

Wax (Mineral)—
Hamburg, 4 bgs.

White Lead—
New York, 20 brls.
Rotterdam, 20 cks.

Zinc Bisulphate—
Rotterdam, 1 brl.

Zinc Oxide—
Antwerp, 20 brls.

TYNE.

Week ending December 14.

Antimony—
Hamburg, 3,000 bars. Cookson & Co.

Antimony Ore—
Hamburg, 286 bgs. Cookson & Co.

Barytes—
Rotterdam, 110 pks. Tyne S.S. Co.

Carbonite—
Hamburg, 1,012 cs. Richter & Co.

Colours—
Rotterdam, 1 ck. Tyne S.S. Co.

Cream of Tartar—
Rotterdam, 1 ck. Tyne S.S. Co.

Lithopone—
Antwerp, 20 cks. Tyne S.S. Co.

Soda Crystals—
Ghent, 200 bgs. Tyne S.S. Co.

Starch—
Antwerp, 181 cs. 5 bgs. Tyne S.S. Co.

Tartar—
Rotterdam, 14 pks. Tyne S.S. Co.

GOOLE.

Week ending December 14.

Acid (otherwise undescribed)—
Hamburg, 5 cks.

Bog Ore—
Harlingen, 63 t.

Caoutchouc—
Boulogne, 6 cks. 1 bl.

Chemicals (otherwise undescribed)
Rotterdam, 23 cks. 11 pks.
Boulogne, 28
Antwerp, 135 bgs.
Ghent, 3 50
Hamburg, 21 36cs. 20 dms.

Dyestuffs (otherwise undescribed)—
Boulogne, 26 cks.
Rotterdam, 594 59 cs.
Antwerp, 25 2
Hamburg, 123 24

Dyestuffs—
Logwood
Campechy, 511 t.

Farina—
Delfziel, 7 250 bgs.

Glue—
Boulogne, 2 cs.
Antwerp, 20 bls.
Hamburg, 400 bgs.

Ochre—
Dunkirk, 20 cks.

Phosphate of Lime—
Boulogne, 915 bgs.

Potash—
Dunkirk, 6 cks. 10 dms.

Salt (Waste)—
Hamburg, { a qnty. / 2,550 bgs. / 455 t.

Starch—
Dunkirk, 40 cs.
Ghent, 18
Hamburg, 18 cks.

Stearine—
Boulogne, 3 cks. 3 cs.

GRIMSBY.

Week ending December 11.

Acetic Acid—
Fredrikstad, 105 cks.

Albumen—
Hamburg, 5 cks.

Cadmium Nitrate—
Hamburg, 1 cs.

Calcium Carbide—
Christiania, 28 dms.
Civita Vecchia, 2,880 cs.

Caoutchouc—
Hamburg, 43 cs.
Antwerp, 21

Chemicals (otherwise undescribed)
Antwerp, 20 cks.
Hamburg, 20 7 cs.

Colours—
Rotterdam, 4 cks.
Dieppe, 4 cs.
Hamburg, 15 21 pks.
Antwerp, 50 111

Glue—
Antwerp, 8 pks.

Plumbago—
Antwerp, 5 cks.

Soap—
Dieppe, 7 cks.

Starch—
Antwerp, 140 cs.

Sulphur Dioxide—
Rotterdam, 5 cylndrs.

Wax—
Hamburg, 5 cs.

EXPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Period ending December 18.

Ammonia—
Durban, 13 cs. £39
Sydney, 20 63
E. London, 5 15
Cape Town, 10 15
Algoa Bay, 39 pks. 8

Ammonium Carbonate—
Copenhagen, 8 cks. 1 kgs. £29
Gothenburg, 20 5 65
Bangkok, 10 cs. 10
Dunedin, 10 31
Santander, 2 6

Ammonium Muriate—
Brussels, 4 t. 18 c. £130

Ammonium Sulphate—
Demerara, 21 t. £290
Yokohama, 100 10 c. 1,231
Kobe, 37 15 434
Valencia, 20 260
Grenada, 60 bgs. 38

Antimony—
S. Petersburg, 7 t. 4 c.

Arsenic—
Falkland Is., 10 dms. £18
Kobe, 50 kgs. 52

Basic Slag—
Seville, 10 t. £15

Bismuth—
Philadelphia, 1 t. 7c.

Bisulphite of Lime—
Bombay, 10 hhds. £22
Lyttelton, 10 brls. 8
Pernambuco, 10 12

Borax—
Victoria, B.C., 11 c. £10
Harlingen, 5 cks. 25
Rotterdam, 1 t. 17 83
Vancouver, B. C., 1 17
Venice, 8 8

Calcium Chloride—
Sydney, 10 dms. £19

Caustic Soda—
E. London, 5 t. 18 c. £114
Bangkok, 1 22
Cape Town, 7 6
Seychelles, 3 3 42
Lyttelton, 10 12

Chalk—
Bordeaux, 12 t.

Chemicals (otherwise undescribed)
Ostend, 1 cs. 1 brl. £28
Paris, 16 kgs. 50
Rotterdam, 46 cks. 2 cs. 68
Rangoon, 20 160
Falkland Is., 2 115dm. 121
Brussels, 3kg. 2 17
Delagoa Bay, 40 76
Colombo, 5 143
Calcutta, 3 34
Auckland, 2 7
Alexandria, 4 37
Santander, 3 11

Citric Acid—
Hamburg, 11 c. £81
Montreal, 1 t. 2 184
Adelaide, 1 2 180
Delagoa Bay, 1 11
Sydney, 10 89
Melbourne, 10 89

Copper Sulphate—
Cologne, 10 t. 17 c. £234

Cottonseed Oil—
Bordeaux, 62 t. 6 c.
Genoa, 29 1
Marseilles, 21 13
Oran, 3 4
Rotterdam, 69 15
Sydney, 10 16

Cyanide (otherwise undescribed)—
Delagoa Bay, 130 cs. £1,086

Disinfectants—
Lisbon, 1 ck. £48
Calcutta, 10 1 cs. 5
Santander, 1 13
Bordeaux, 33 44
Penang, 200dm. 31pk. 75
Singapore, 250 63
Durban, 3 cs. 8
Penang, 56 19
H. Kong, 25 175
Wellington, 11k. 20 dms. 133
Auckland, 36cs. 44 68
E. London, 2 110 34
Madras, 50bgs. 3 26
Colombo, 1ck. 12 1 cs. 8
Brisbane, 4 12
C. Town, 25 440 28 333
Algoa Bay, 40 100 3 26
Delagoa Bay, 250 15 267
Timaru, 16 pks. 5
Hamburg, 2 38
Calcutta, 2 6
Cologne, 5 88

Fertiliser—
Kudat, a qty.

Formaldehyde—
La Plata, 2 cs. £11

Glycerine—
Lisbon, 16 c. £36
Santander, 6 16
Auckland, 2 7
E. London, 2 7

Guano—
Demerara, 86 t. £733

Linseed Oil—
Auckland, 3 t. 18 c.
Brisbane, 2
Delagoa Bay, 12
E. London, 1 8
Gibraltar, 1 4
Invercargill, 2
Jamaica, 3 9
Madras, 16
Mauritius, 1 17
Otago, 12
Penang, 1 16
Pt. Elizabeth, 3 18
Rotterdam, 1 3
Santander, 2 10
Santos, 1 19
Singapore, 19
Sydney, 2 11
Timaru, 2 12

Manure—
Wellington, 2 t. 4 c. £23
Marseilles, 10 60
Colombo, 10 45

Mercury Bichlorate—
Calcutta, 2 cs. £26

Paraffin Wax—
Naples, 23 t. 18 c.

Phosphoric Acid—
Demerara, 5 cks. £17

Phosphorus—
Wellington, 10 cs. £64

Potassium Chlorate—
C. Town, 7 t. £204
E. London, 3 10 c. 102

Potassium Cyanide—
Melbourne, 1 t. £76
Amoy, 4 c. 18

Salt—
Bluff, 35 t.

Salt (Waste)—
St. Petersburg, 5 t.

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Saltpetre—
Paranagua, 1 t. 19 c. £54
Hamburg, 10 250
Santos, 2 53
Sheep Dip—
Falkland, 24 dms. £40
C. Town, 100 22
Soap—
Alexandria, 2 c.
Amsterdam, 2
Bluff, 12
Boulogne, 7
Bremen, 12
Brussels, 3
Calcutta, 3
Christchurch, 1
Constantl'ple, 2 t. 9
Dominica, 3 17
Durban, 11
Falkland Is., 1 12
Hamburg, 1
Madras, 3
Malta, 1
Naples, 4
Otago, 1 8
Penang, 2
Pt. Elizabeth, 2 10
St. Petersburg, 6
Santander, 1
Swakopmund, 4
Sydney, 5
Victoria, B.C., 3
Vigo, 1
Yokohama, 8
Soap Powder—
Bluff, 10 c.
Soda Crystals—
Algoa Bay, 6 t. 5 c. £25
Aden, 1 1 5
Colombo, 1 8
Sodium Bicarbonate—
Oporto, 5 c. £10
C. Town, 9 7
B. Ayres, 4 6
Sodium Hyposulphite—
Calcutta, 1 t. £8
Sodium Sulphide—
Gisborne, 5 t. 2 c. £37
Wellington, 5 1 37
Starch—
Alexandria, 5 t.
Calcutta, 10 c.
Delagoa Bay, 1 10
Durban, 2 5
Jaffa, 10
Otago, 3 4
Pt. Elizabeth, 4 9
Sulphur—
E. London, 16 t. 14 c. £133
Sulphur Compound—
Ostend, 1 cs. £6
Sulphuric Acid—
Calcutta, 2 t. 19 c. £22
Colombo, 6 5
Axim, 1 9 14
Sekondi, 8 6
Channel Is., 18 10
Superphosphate—
Demerara, 81 t. £299
Superphosphate of Lime—
Durban, 30 t. £95
Tallow—
Paris, 30 t. 7 c.
Tannic Acid—
Brisbane, 1 cs. £10
Tartaric Acid—
Adelaide, 2 t. 2 c. £199
Melbourne, 1 98
Wax—
Larache, £21
White Lead—
Auckland, £151
Brisbane, 212
Calcutta, 239
Delagoa Bay, 130
E. London, 29
Otago, 51
Pt. Elizabeth, 41
Wellington, 150

LIVERPOOL.

Week ending December 11.

Acetate of Lime—
Santos, 1 t. 1 c. £17
Acetic Acid—
Para, 1 cs. £1
Santos, 1 t. 15
E. London, 1 c. 3
Alkali (Salt Waste)—
Melbourne, 1 t. 2 c. £19
Alum—
Rangoon, 3 t. 7 c. £18
Demerara, 13 4
Rio de Jan., 10 3
Madras, 8 16 49
Hamburg, 1 2
Salonica, 7 37
Varna, 6 8 35
Santos, 1 1 7
Piræus, 7 2
Sydney, 2 13
Alumino Ferric—
Havana, 10 t. £36
Aluminous Sulphate—
Madras, 5 t. £29
Santos, 9 c. 2
Ammonia—
Tocopilla, 7 c. £14
Curaçao, 3 cs. 4
St. Johns, N'fld., 1 2
Ammonium (Anhydrous)—
Las Palmas, 6 c. £70
Ammonium Carbonate—
Rangoon, 1 t. 2 c. £36
B. Ayres, 2 2 67
N. Orleans, 2 19 84
Bordeaux, 19 34
Bahia, 9 14
M. Video, 1 32
Rosario, 19 32
New York, 1 19 68
Lisbon, 1 33
Nantes, 19 32
Gothenburg, 3 102
Kobe, 4 10 168
Johannesburg, 5 9
Rouen, 2 9 75
St. Johns, N'fld., 6 11
Ammonium Muriate—
Barcelona, 5 c. £5
Auckland, 19 24
Philadelphia, 16 t. 2 420
Genoa, 5 8 115
Alexandria, 5 162
Sydney, 10 14
Barcelona, 1 16 39
Hiogo, 4 13 101
Yokohama, 2 5 52
Patras, 12 13
Odessa, 2 4 53
Ammonium Sulphate—
Oporto, 5 t. 2 c. £64
Philadelphia, 92 6 1,104
Kobe, 239 6 2,848
New York, 71 3 852
Malaga, 50 600
S. Cruz, 15 178
Demerara, 230 2,731
Nantes, 45 535
Teneriffe, 12 142
Alicante, 15 168
Las Palmas, 30 13 371
Baltimore, 176 1 2,169
Penang, 20 1 240
Yokohama, 206 2,544
Valencia, 145 1,550
Arsenic—
Colombo, 2 c. £4
Yokohama, 1 t. 5 35
Barium Sulphate—
Vera Cruz, 1 ck. £3
Basic Slag—
Vigo, 10 t. £15
Corunna, 125 186
Bleaching Powder—
Bombay, 30 cks. 63 cs.
Boston, 213
B. Ayres, 7
Christiania, 7
Ghent, 29
Hamburg, 150 brls.
Havana, 35
N. Orleans, 25 25 bxs.
Philadelphia, 81
Portland, 278
Rio de Jan., 138 dms.
Santos, 7
Bone Ash—
Hiogo, 2 c. £1
Trinidad, 5 1 cs. 3
Bones—
Las Palmas, 5t. £30
Boracic Acid—
Adelaide, 10 c. £13
Hamburg, 5 t. 38
Venice, 10 10
Brisbane, 5 1 101
Borax—
Adelaide, 1 t. £16
Vera Cruz, 1 5 c. 20
Piræus, 10 8
Havana, 1 1 16
Borax—
Rangoon, 2 t. £32
New York, 10 7 c. 159
Tampico, 2 3
Brisbane, 8 128
Sydney, 4 63
Calcium Chloride—
Valparaiso, 3 t. 2 c. £7
Sydney, 9 18 31
Delagoa Bay, 2 11 5
Durban, 14 10 40
Amsterdam, 7 19 18
Calcium Sulphydrate—
Antwerp, 21 t. 3 c. £88
Ghent, 10 6 43
Carbonate of Lime—
New York, 10 t. 2 c. £117
Carbon Bisulphide—
Cartagena, 4 c. £7
Carbonic Acid Gas—
Thersina, 4 cs. £2
Caustic Potash—
Johannesburg, 1 t. £27
Hamburg, 4 c. 6
Sydney, 6 4 177
Caustic Soda—
Adelaide, 25 brls.
Aleppo, 160 dms.
Amsterdam, 29
Bahia, 86
Barcelona, 90 cks.
Bata, 23 bxs.
Bilbao,
Brisbane, 6
Callao, 50
Catania, 18
Ceara, 25
Cebu, 10
Copenhagen, 20
Costa Rica, 20
Galveston, 379
Genoa, 5 496
Hiogo, 123
Hong Kong, 95
Kobe, 25
Leghorn, 148
Malaga, 222
Malmo, 10
Melbourne, 24
M. Video, 25
Mersina, 32
Nagasaki, 40
Naples, 10 135
N. Orleans, 25brl.20
Piræus, 200
Rangoon, 24
Rio de Jan., 15 cs. 55
R. G. do Sul, 20
Rotterdam, 54
Rouen, 60
San Blas, 150
Santos, 20
Shanghai, 68
Sourabaya, 168
Sydney, 79
Valencia, 84 cks. 35
Venice, 60
Volo, 44
Yokohama, 175
Chemicals (*otherwise undescribed*)
Melbourne, 3 brls. £17
Madras, 14 372 cs. 1,556
Bahia, 10 kgs. 6
Coquimbo, 25 15
Genoa, 60 94
Belize, 1 1
New York, 11 160
Philadelphia, 10 122
Trieste, 30 brls. 115
Volo, 1 6
Salonica, 7 40
Manaos, 177 cks. 36
Marseilles, 1 7
Karachi, 70 brls. 383
Bombay, 50 273
Sydney, 10 kgs. 14
Victoria, 1 2
B. Ayres, 300 dms. 826
P. Arenas, 20 20
Havana, 10 28
Lisbon, 8 cks. 55
Trieste, 51 135
Calcutta, 2,442 slabs. 159
China Clay—
Bombay, 850 cks.
Gothenburg, 20
Chrome Acetate—
Lisbon, 1 ck. £3
Coal Products—
Aniline Salts
Alexandretta, 16 c. £44
Montreal, 3 cks. 35
Orotava, 12 31
Bombay, 2 t. 110
Coal Products—
Carbolic Acid
Rotterdam, 22 t. 15 c. £335
Carbolic Acid (Crystals)
Forcados, 1 cs. £1
Carbolic Acid (Solid)
Calcutta, 4 c. £12
Halifax, 9 80
Creosote
Boston, 410 cks.
Creosote Salt
Philadelphia, 1,320 bgs.
Tar
Manaos, 3 brls. 24 dms.
Coal Products (*otherwise undes.*)—
Bordeaux, 15 brls.
Colours—
Antwerp, 25 cks.
Bombay, 66 cs.
B. Ayres, 5
Christiania, 30
Hamburg, 50 bgs.
Manaos, 41
Copperas—
Singapore, 5 t. 17 c. £13
Trebizonde, 15 3
Calcutta, 13 4 28
Vera Cruz, 13 1
Copper Sulphate—
Con'nople, 1 t. 15 c. £36
Trieste, 49 19 1,002
Salonica, 9 9
Callao, 18 20
Victoria, 4 82
Marseilles, 7 9 153
Dunedin, 2 56
Napier, 1 23
Wellington, 1 22
Calcutta, 7 10 150
Sourabaya, 8 217
Samarange, 14 15
Nantes, 4 19 115
Reval, 10 2 220
Catania, 50 9 1,068
Messina, 4 19 106
Alexandria, 2 19 69
Vera Cruz, 20 10 471
Almeria, 17 18
Barcelona, 4 19 112
M. Video, 4 5
Calcutta, 1 24
Bilbao, 1 2 32
Bordeaux, 14 12 325
Montreal, 25 3 592
B. Ayres, 1 22
Antwerp, 7 14 225
Amsterdam, 2 10 55
Rouen, 24 17 560
Bordeaux, 12 19 350
Bombay, 2 10 69
Odessa, 5 3 142
Progresso, 1 1
Almeria, 6 5 130
Riga, 5 4 112
Rotterdam, 9 17 189
Cottonseed Oil—
Dakar, 4 brls.
Disinfectants—
Axim, 10 dms. £2
Assini, 1 cs. 2
Brisbane, 28 cks. 13
Buruta, 1 4
Calcutta, 50 17
Lagos, 1 3
Karachi, 1 23
Singapore, 12 dms. 7
Shanghai, 10 5
Orotava, 1 1
Wanganui, 15 c. 14
Wellington, 11 8
Sekondi, 5 6
Adelaide, 10 20
Bombay, 2 t. 10 27
Mossel Bay, 1 5
Dried Blood—
Colombo, 10 t. 10 c. £106
Teneriffe, 2 10 24
Las Palmas, 10 5
Dyestuffs—
Tannin Extract
Rotterdam, 20 cks.
Ferro Silicon—
Rotterdam, 100 t.
Glue—
New York, 100 bgs.
Rotterdam, 12
Glycerine—
Natal, 10 c. 1 cs. £27
Karachi, 19 49
Canada, 25 t. 3 1,168
New York, 23 16 893

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Hyposulphite of Lime—
Barcelona, 4 c. £41

Iron Oxide—
Delagoa Bay, 124 kgs.
Hamburg, 5 cks.
St. Johns, N'fld., 8

Lead Acetate—
Abosso, 3 c. £5

Linseed Oil—
Amapala, 6 cs.
Alexandria, 15 brls.
Bombay, 140 dms.
B. Ayres, 80
Canea, 12
C. Town, 12
Ceara, 40
Corfu, 19
Corinto, 8 cks.
Havana, 5
Iquitos, 13 cs.
La Libertad, 25
Madras, 2 brls, 150
Manaos, 5 20
Piræus, 38

Magnesia—
New York, 4 c. £11
Odessa, 2 11
Havre, 6 15

Magnesia (Calcined)—
B. Ayres, 1 cs. £26
Tampico, 3 c. 7
Vera Cruz, 9 22

Magnesium Carbonate—
Demerara, 1 c. £2

Magnesium Chloride—
Rangoon, 1 t. 5 c. £11
St. John, N.B., 13 13 38
B. Ayres, 3 3 9

Manure—
Acajutla, 12 t. £100
Baltimore, 54 3 c. 557
Patras, 1 6
Las Palmas, 4 50
Hamburg, 25 3 165

Muriate of Lime—
Sydney, 10 t. £20

Muriatic Acid—
Iquique, 1 c. £2

Nitric Acid—
Iquique, 1 c. £3
Trinidad, 1 cs. 1
Curaçao, 1 1

Ochre—
Bombay, 25 kgs.

Paraffin Wax—
Valparaiso, 150 bgs.

Phosphorus—
Kobe, 4 t. 9 c. £760
Tampico, 2 20
Vera Cruz, 6 50

Phosphorus (Amorphous)—
Rio de Jan., 14 c. £150
Kobe, 1 t. 15 350

Potash—
Singapore, 3 c. £2
Antwerp, 1 tin. 1

Potassium Bicarbonate—
Kobe, 2 t. 5 c. £57

Potassium Bichromate—
Volo, 15 c. £18
Alexandria, 2 t. 62
Patras, 10 15

Potassium Chlorate—
Rangoon, 4 c. £8
Copenhagen, 2 t. 60
Para, 1 3
Konigsberg, 3 90
Yokohama, 15 450
Bari, 1 1 31
Leghorn, 2 60
Venice, 4 18 147
Genoa, 1 9 44
Naples, 2 60
Civita Vecchia, 19 29

Potassium Cyanide—
Galveston, 18 t. 6 c. £1,698
Hamburg, 1 1 2
Melbourne, 5 6 11
Sekondi, 19 84

Potassium Prussiate—
B. Ayres, 3 c. £9
Rio de Jan., 4 11

Potassium Stannate—
Bombay, 1 t. 5 c. £109

Red Lead—
Antwerp, 5 kgs.

Salammoniac—
N. Orleans, 1 t. 1 c. £42
Lagos, 3 8
Piræus, 1 5 49
Genoa, 6 11
Catacolo, 4 8
Karachi, 3 114
Tunis, 2 4
Rangoon, 2 90
Beyrout, 1 39

Salicylic Acid—
Cotonou, 1 cs. £4

Salt—
Abonnema, 40 t.
Amsterdam, 250
Antwerp, 150
Bassam, 26 15 c.
Brazzaville, 2
B. Ayres, 188
Calcutta, 968
C. Palmas, 450 bgs.
Cape Town, 25
Christiania, 260
E. London, 53 10 c.
Ghent, 729
Halifax, 50
Iquitos, 50 10
Lagos, 99
Lisbon, 1 2
Malta, 60 cs.
Maranham, 13 16
Newcastle, N.S.W., 161
N. Orleans, 75
Oron, 40
Porto Novo, 46 18
Rio de Jan., 455
Rotterdam, 643
Saltpond, 11 3
Sydney, 124
Trinidad, 26 8
Vancouver, 100

Saltcake—
Leghorn, 2,000 bgs.

Saltpetre—
S. Leone, 1 c. £1
Lagos, 6 10
C. Coast, 1 2
Maranham, 14 20
Ceara, 14 20
Madeira, 1 brl. 1

Sheep Dip—
Algoa Bay, 9 t. 9 c. £158
Belize, 12 dms. 2
B. Ayres, 35 3 c. 1,091
Durban, 3 13 150
M. Video, 21 18 530
Punta Arenas, 52 300 cs. 10 c. 1,413
Rivadiva, 4 11 125

Soap—
Accra, 160 cs.
Alexandria, 43
Ancona, 6
Bangkok, 200
Barbadoes, 1,000 bxs.
Barcelona, 6
Bari, 20
Beira, 7
Belize, 1,280
Brit. C. Africa, 100
B. Ayres, 10 3 cks. 210 pks.
Burutu, 59 bxs.
Calcutta, 89 250 bdls.
Cameroon, 10 bxs.
Canada, 30
C. Town, 632
Casablanca, 70
Christiania, 400 bgs.
Colombo, 219
Constanti'ple, 25
Copenhagen, 151
Delagoa Bay, 13 50
Dunkirk, 1,786
Durban, 50
E. London, 38
Genoa, 6
German W. Africa, 30
Gothenburg, 650
Grenada, 46
Karachi, 37 1,128
Lagos, 1,360
Las Palmas, 157
Leghorn, 2 44 pks.
Lisbon, 1
Malta, 12
Manilla, 8
Melbourne, 18
Mollendo, 6
New York, 44
Patras, 9
Piræus, 2
Pt. Elizabeth, 80
Port Said, 8

Soap—
Port Louis, 1,000 bxs.
Rangoon, 150
Rotterdam, 1,320 cs.
Salonica, 40
S. Leone, 6 33
Singapore, 40
Smyrna, 20
St. John, 50
St. Lucia, 29
St. Vincent, 75
Sydney, 2 10
Teneriffe, 11 152
Valencia, 5 cks.

Soap Powder—
Antwerp, 500 bxs.
Dunkirk, 50

Soda Ash—
Bombay, 6 cks. 175 bgs.
Canea, 12 brls. 100
C. Town, 4 cs.
Genoa, 100
Halifax, 150
Hiogo, 3,383
H. Kong, 142 cks.
Karachi, 250
Kobe, 350
La Guayra, 61
Leghorn, 97
Maranham, 180
Palermo, 200
Patras, 15 brls.
Piræus, 71
Rotterdam, 100
Salonica, 20
Samarang, 280
Santos, 45
Shanghai, 833 2,814
Sourabaya, 5 373
St. John, 1,982
Venice, 1,300
Vera Cruz, 81
Victoria, 80

Soda Crystals—
B. Ayres, 7 kgs.
Halifax, 40
New York, 56 cks.
Penang, 20
Shanghai, 42

Sodium Bicarbonate—
Alexandria, 60 kgs.
Barcelona, 8 cks. 430 40 bgs.
Bombay, 869
Bourgas, 45
Brisbane, 250
Calcutta, 787
Catania, 25
Colombo, 17
Constanti'ple, 20 dms. 100
Hiogo, 667 333
Karachi, 600 400
La Guayra, 10
Leghorn, 50
Malta, 14
Pernambuco, 20
Rangoon, 50
Rio de Jan., 100
Salonica, 20
Sourabaya, 25
St. John, 50
Sydney, 513
Varna, 44
Volo, 20

Sodium Borate—
Rotterdam, 8 c. £25

Sodium Cyanide—
Mazatlan, 180 cs.

Sodium Silicate—
M. Video, 4 cks.
Patras, 67
Samarang, 40
Seattle, 100

Sodium Sulphate—
Bombay, 50 kgs.

Sodium Sulphate (Glauber's Salts)—
B. Ayres, 6 dms.

Sulphur—
E. London, 2 t. 5 c. £33
C. Town, 2 5 32
Algoa Bay, 21 5 238
Valparaiso, 3 21

Sulphuric Acid—
Lisbon, 11 t. 9 c. £75
Iquique, 1 1
Hamburg, 15 5
Delagoa Bay, 15 8
Nickerie, 8 15 61

Superphosphate—
Almeria, 4 t. 8 c. £11
Demerara, 24 10 80
Las Palmas, 7 19

Superphosphate—
Fremantle, 2,094 t. 15 c. £5,446
Las Palmas, 1 4
Malaga, 197 18 549
Orotava, 4 15
Teneriffe, 34 15 90

Tallow—
Alexandria, 60 trcs.
Amsterdam, 117 cks.
Ancona, 6 cs.
Christiania, 125
Constanti'ple, 35 2 bls.
Odessa, 68
Rotterdam, 50

Tannic Acid—
Lisbon, 2 cks. £69
Santos, 10 c. 60

Tartaric Acid—
Bahia, 2 c. £10
Cotonou, 2 14

Turpentine—
Corinto, 4 cks.

White Lead—
B. Ayres, 40 cks. 70 kgs.
Durban, 10

Zinc Chloride—
Callao, 4 t. 5 c. £45
Bombay, 5 15 102
Rio de Jan., 10 9

Zinc Muriate—
Sydney, 1 t. £21

Zinc White—
Genoa, 80 kgs.
Rotterdam, 40 cks.

MANCHESTER.

Week ending December 18.

Albumen—
Antwerp, 30 cs.

Ammonium Carbonate—
Tunis, 1 brl.

Ammonium Muriate—
Bagdad, 20 brls.
Bushire, 2 cks.

Bones—
Treport, 122 bgs.

Caustic Soda—
Beyrout, 20 dms.

Chalk—
Philadelphia, 66 cks.

Chemicals (*otherwise undescribed*)
St. John, N.B., 76 pks.
Alexandretta, 50 brls.
Beyrout, 25

China Clay—
Phila'phia, 226 cks.

Coal Products—
Aniline Colour
Alexandretta, 1 kg.
Antwerp, 1 bx.
Germany, 3
Philadelphia, 2 brls.
Aniline Salt
Philadelphia, 28 cks. 15 dms.
Benzol
Philadelphia, 22 dms.
Carbolic Acid
Rouen, 170 btls.
Creosote Oil
Boston, 113 brls.
Creosote Salt
Philadelphia, 335 bgs.
Cresylic Acid
Philadelphia, 97 brls.
Naphthylamine
Antwerp, 127 cks.
Pitch
Civita Vecchia, 1,398 t.
Tar
Philadelphia, 21 dms.

Copperas—
Jaffa, 10 brls.
Larnaca, 15

Copper Sulphate—
Tunis, 2 kgs.

Disinfectants—
Bombay, 20 cks.

Dyestuffs (*otherwise undescribed*)—
Montreal, 2 cks. 1 bx.

Glue—
Germany, 35 cks.
Montreal, 50 bgs.

Linseed Oil—
Beyrout, 14 brls.
Limassol, 2
Tripoli, 7
Larnaca, 2

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Oxalic Acid—
Tunis, 4 cks.
Bushire, 6 cs.

Potassium Bichromate—
Ceira, 12 cks.

Red Lead—
Limassol, 2 cks.

Salammoniac—
Beyrout, 1 ck.10 brls.
Tunis, 1

Salt—
Gothenburg,149 t.

Soap—
Bagdad, 26 bxs.
Famagusta, 6 pks.4 cs.
Jaffa, 22
Larnaca, 5 14
Limassol, 3 7
Nicosia, 5 7
Bombay, 18
Alexandria, 186 200
Jaffa, 6
Limassol, 5
Mohammerah, 31
P. Sudan, 20

Soap Lyes—
Philadelphia, 50 dms.

Soap Powder—
Bushire, 5 cs.

Soda Crystals—
Sfax, 40 bgs.
Sousse, 15 brls.

Silicon Carbide—
Hamburg, 29 brls.

Sodium Bicarbonate—
Alexandria, 60 kgs.
Alexandretta, 24 bgs.
Tunis, 40
Sousse, 5

Sodium Prussiate—
Philadelphia, 13 cks.

Sodium Silicate—
Djibouti, 121 cks. / 41 bgs.

Sulphur—
Halmstad, 1,500 bgs.

Tallow—
Bombay, 5 cks. / 12 brls.

Zinc Chloride—
Bombay, 3 cks.

HULL.

Week ending December 14.

Antimony—
Reval, 20 cks.
New York, 200

Bones—
Rouen, 144 bgs.

Chemicals (*otherwise undescribed*)
Amsterdam, 74 cks.
Antwerp, 2 cs. 7 tcs.
Bremen, 6
Bergen, 2 4 dms.
Copenhagen, 2 50 btls.
Gothenburg, 40 20 1,786 slabs.
Helsingfors, 3
Libau, 36 10
New York, 275
Odessa, 275 130 kgs.
Rotterdam, 14 2 dms.
Rouen, 30
Riga, 6 38
Reval, 20 7 20
Stettin, 10

Coal Products—
Pitch
Antwerp, 420 t.
Rouen, 5 2 c.
New York, 102 cks.
Tar
Hamburg, 10 cks. 1 dm.

Cottonseed Oil—
Amsterdam, 16 t.
Con'nople, 20 9 c.
Dunkirk, 10 11
Gothenburg, 8 11
Hamburg, 45 4
Rotterdam, 59 10
Rouen, 6 4
Stockholm, 8 17

Dyestuffs (*otherwise undescribed*)—
Antwerp, 4 cks.

Ferro Chrome—
Riga, 2 cks.

Glue—
Boston, 90 cks.

Graphite—
Hamburg, 96 bgs.

Linseed Oil—
Bremen, 5 t. 6 c.
Christiania, 11
Christiansand, 1 15
Constantinople,4 16
Ghent, 2
Hamburg 4
Stockholm, 3

Manure—
Hamburg, 1,471 bgs.

Molasses—
Bergen, 155 brls.
Drontheim, 140

Salt—
Amsterdam, 25 cs.

Soap—
Helsingfors, 50 cs.
Hamburg, 50 bxs.

Starch—
Bergen, 10 cs.

Tallow—
Amsterdam, 16 cks.
Bremen, 28
Copenhagen, 10 brls.
Riga, 28

Turpentine—
Copenhagen, 18 cks.
Gothenburg, 5
Hamburg, 21

GLASGOW.

Week ending December 19.

Ammonium Carbonate—
Sweden, 13 c. 2 q.

Ammonium Muriate—
Canada, A., 2 t.18 c.

Ammonium Sulphate—
Baltimore, 89 t.18 c. 1 q.
Newport N., 100 9 1
Demerara, 269 9 3
Trinidad, 57 10 3

Boiler Disincrustant—
Bombay, £109

Bone Meal—
Jersey, 5 t.

Boracic Acid—
Rotterdam, 10 c.

Borax—
Rotterdam, 14 t. 1 c.

Chemicals (*otherwise undescribed*)
Trinidad, £35
Toronto, 85

Coal Products—
Benzol
Rotterdam, 12 t. 4 c.
Carbolic Acid
Rotterdam, 23 t. 4 c.
Creosote Oil
Helsingfors, 387 t. 8 c.
Portland, 51
Pitch
Belgium, £243
Caen, 1,380
Alexandria, 174
Egypt, 34
La Rochelle, 1,414
Bombay, 32
Sweden, 181
Tar
Karachi, £73
Rosario, 160

Dextrine—
Italy, £60

Dyestuffs (*otherwise undescribed*)—
Calcutta, £54
Sweden, 87

Ferro Silicon—
U.S.A., 50 t.

Fish Oil—
Trieste, £7,549
Venice, 369
Italy, 1,016
Marseilles, 223
Rouen, 120
Hamburg, 8 c. 18 lb.

Gelatine—
Boston, £195
Montreal, 21

Glycerine—
B. Columbia, £425
Bombay, 60

Guano—
St. Kitts, 5 t.

Gutta Percha—
Amsterdam, 1 c. 3 q. 2 lb.

Hydrochloric Acid—
Trinidad, £124

Iodine—
Toronto, £224
Rotterdam, 1 t. 1

Lead Nitrate—
Belgium, 1 t. 1 c.

Lead Ore—
Karachi, 2 t.10 c.

Linseed Oil—
Christchurch, 1 t.
Dunedin, 5 12 c. 2 q.
Trieste, 4 1
Alexandria, 8 16 3
Cebu, 1
H. Kong, 1 18 2
Bombay, 1 3

Litharge—
Auckland, £83

Manure—
Jersey, 745 t. 9 c. 3 q.

Oxalic Acid—
Boston, £600

Paraffin (Solid)—
Bari, 16 t.16 c. 2 q.
Marseilles, 2 8

Paraffin Wax—
Bari, 1 t.12 c. 3 q.
Venice, 62 1
Helsingfors, 13 13 1
Italy, 25 9 1
Marseilles, 4 3
Paris, 9 1 3
Christiania, 15 17 2
Bombay, 14
Demerara, 17 2
Rouen, 5 2 3

Potassium Bichromate—
Timaru, 1 t. 3 c. 3 q.
Venice, 6 3
Rotterdam, 10 18 4
Bombay, 5 4 3
Rouen, 6 4 3
Amsterdam, 2 1

Red Lead—
Trieste, 3 t.15 c.
Rotterdam, 1 4 1 q.
Bombay, 14 10

Rosin—
Bombay, £28

Soap—
Switzerland, 6 t. 4 c.
Calcutta, 1 9 2 q.

Sodium Cyanide—
Auckland, £2,627
Fremantle, 408

Sodium Iodide—
Rotterdam, 1 t.

Sodium Bichromate—
Antwerp, 6 t. 2 c. 1 q.
Rouen, 5 19 3

Stearine—
Trieste, £1,073

Superphosphate—
Jersey, 210 t.

White Lead—
Karachi, 18 c. 2 q.
Westport, 2 t. 7
Alexandria, 1 19
B. Ayres, 2 10 3
Bombay, 4

Yellow Prussiate—
U.S.A., 17 t.18 c.

Zinc Oxide—
Auckland, 1 t. 8 c.

TYNE.

Week ending December 14.

Antimony—
Batoum, 2 t.

Antimony (Regulus)—
Rotterdam, 18 t. 12 c.

Barium Binoxide—
Genoa, 6 t. 4 c. 2 q. 14 lb.
Leghorn, 44 11 2 10

Barium Carbonate—
Rotterdam, 51t. 19 c. 2 q.

Bleaching Powder—
Gothenburg, 25 t. 3 q. 6 lb.
Bergen, 5 9 c. 1
Copenhagen, 17 19 2 8
Rotterdam, 14 16 2 14
Odense, 3 3 2 20

Caustic Soda—
Gothenburg, 4 t.18 c. 2 q. 18 lb.
Genoa, 55 6 1 10
Amsterdam, 6 9 2 16
Bergen, 2 18 4

Fish Oil—
Malta, 12 c.

Manure—
Copenhagen, 2 t.

Red Lead—
Gothenburg, 2 t.17 c. 1 q. 9 lb.
Batoum, 1 18 3 4
Piræus, 15 19
Copenhagen, 3 18 6
Rotterdam, 2 3 14
B. Blanca, 10 12

Satinite—
Copenhagen, 25 t. 2 c. 11 lb.

Soap—
Bergen, 2 t. 7 c. 23 lb.

Soda—
Stavanger, 10 t.

Soda Compounds—
Gothenburg, 10 t. 3 c. 14 lb.

Soda Crystals—
Venice, 5 t. 7 c. 2 q.

Sodium Sulphate—
Gothenburg,120 t.

Sulphur—
Gothenburg, 60 t.

White Lead—
Odessa, 4 t. 11 c. 10 lb.
Batoum, 2 1 27

Zinc White—
B. Blanca, 1 t. 2 c. 2 q.

GOOLE.

Week ending December 14.

Ammonium Carbonate—
Hamburg, 16 cks.
Rotterdam, 55

Chemicals (*otherwise undescribed*)
Copenhagen, 10 cks.
Ghent, 8
Hamburg, 6 15 crbys.
Rotterdam, 18 24cs. 41 dms.

Coal Products (*otherwise undes.*)—
Amsterdam, 50 cks.
Antwerp, 19
Boulogne, 71 1 dm.
Delfziel, 218
Hamburg, 49 18
Rotterdam, 48

Colours—
Antwerp, 6 cks.
Rotterdam, 7 1 cs.
Boulogne 3 21, 5 dms. / 12 tins.

Dyestuffs (*otherwise undescribed*)—
Rotterdam, 10 cks.2 cs.

GRIMSBY.

Week ending December 11.

Basic Slag—
Esbjorg, 200 bgs.

Caoutchouc—
Halmstad, 2 cs.

Chalk—
Rotterdam, 8 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Hamburg, 30 5 kgs.
Rotterdam, 9 / 25 brls.

Coal Products (*otherwise undes.*)—
Helsingborg, 5 brls.

Colours—
Hamburg 3 cs. / 4 brls.

Manure—
Hamburg, 801 bgs.

Soap—
Malmo, 2 cs.
Rotterdam, 50

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PRICES CURRENT.

TUESDAY, December 24, 1907.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 21, SPRING GARDENS, MANCHESTER.

The values stated are F.O.R. at makers' works, or at usual ports of shipment in U.K., unless otherwise specified. The price in different localities may vary.

		£	s.	d.
Acids :—				
* Acetic, 25% and 40%	per cwt.	8/9 & 12/9		
* ,, Glacial	,,	36/6		
Arsenic S.G. 2,000°	,,	30/-		
* Fluoric	per lb.	0	0	4½
* Muriatic (Tower Salts), 30° Tw.	per bottle	1/1		
* ,, (Cylinder), 30° Tw.	,,	0	2	0
* Nitric 80° Tw.	per ton	14	15	0
* Nitrous	nett per cwt.	0	18	6
Oxalic	per lb.	0	0	3¾
Phosphoric, 1750°	,,	0	0	10½
Picric	,,	0	0	10½
* Sulphuric (fuming 70%)	per ton	6	0	0
* ,, (Pyrites, 168°)	,,	3	2	6
* ,, (,, 150°)	,,	30/-		
* ,, (free from arsenic, 145°)	,,	36/-		
* Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic	per lb.	0	1	3
Tartaric	,,	0	0	10½
*Acetone	per ton	80	0	0
Arsenic, white powdered	nett ,,	26	0	0
*Alum, loose lump (delivered)	,,	5	12	6
Alumina Sulphate (pure)	,,	4	7	6
Aluminoferric (in slabs)	,,	2	12	6
Aluminium (Ingot metal 98/99%)	nett ,,	106	0	0
*Ammonia, Anhydrous	per lb.	0	1	1
* ,, .880	per ton	24	0	0
* ,, .920	,,	13	0	0
,, Carbonate	per lb	0	0	2½
,, Muriate (grey)	per ton	25	0	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	42/- & 40/-		
,, Nitrate	per ton	36	0	0
,, Phosphate	,,	38	0	0
,, Sulphate (grey), London	,,	11	13	9
,, ,, ,, Hull	,,	11	15	0
,, ,, ,, Manchester	,,	11	13	9
*Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	4½
Antimony	per ton	34	0	0
,, (tartar emetic) 43/44%	per lb.	0	0	9½
,, (golden sulphide)	,,	0	1	3
Barium Chloride	per ton	7	5	0
,, Carbonate (native), 92/94%	,,	5	0	0
,, Sulphate (native levigated)	,,	45/- to 65/-		
*Bisulphide of Carbon	,,	18	10	0
Bleaching Powder, 35%	nett ,,	4	7	6
* ,, Liquor, 7%	,,	2	0	0
Chromium Acetate (powder)	per lb.	0	0	5½
Calcium Chloride	per ton	2	10	0
China Clay (at Runcorn), in bulk	,,	20/- to 27/6		
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20%	nett per lb.	0	0	7
Magenta	,,	0	2	3
Anthracene, 40-45% A, f.o.b. L'don,	per unit, per cwt.	1½d. to 1¾		
Benzol, 90's	per gallon	0	0	8½
,, 50/90	,,	0	0	8½
Carbolic Acid (crude 60°)	,,	0	1	7½
,, (crystallised 40°)	per lb.	0	0	5
,, (liquid 95/97%)	per gallon	0	1	1
* Creosote (ordinary), naked	,,	0	0	2¾
* ,, (filtered for Lucigen light)	,,	0	0	3½
* Crude Naphtha, 30% A @ 120° C.	,,	0	0	3½
* Grease Oils, 18° Tw. (naked)	per ton	2	15	0
* Pitch, f.o.b. Liverpool or Garston	,,	1	1	0
* Solvent Naphtha, 90% @ 160°	per gallon	0	1	3
Copper	per ton	60	15	0
,, Sulphate	,,	22	5	0
,, Oxide (copper scales)	,,	55	0	0
*Glycerine (crude), 80%	,,	37	10	0
* ,, (distilled S.G. 1260°)	,,	61	10	0
Iodine	nett per oz.	0	0	6
*Iron Sulphate (copperas)	per ton	1	12	6
,, Sulphide	,,	3	10	0
Lead (sheet)	,,	16	15	0
,, Litharge Flake (ex ship)	,,	17	15	0
,, Acetate (white) ,,	,,	28	10	0
,, ,, (brown) ,,	,,	25	0	0
,, **Carbonate (white lead), pure**	,,	21	10	0
,, **Nitrate**	,,	32	0	0
Lime, Acetate (brown) (ex ship)	per ton	7	15	0
,, ,, (grey) 80%	,,	11	10	0
Magnesium (ribbon and wire)	per lb.	1	0	0
,, Chloride	per ton	3	7	6
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton	19	0	0
,, Sulphate (Epsom Salts)	,,	3	0	0 *
Manganese, Sulphate,	,,	17	10	0
,, Borate	per cwt.	2	2	6
,, Ore, 70%	per ton	6	5	0
Methylated Spirit, 64° (Industrial)	per gallon	0	1	8 *
Naphtha (Wood), Solvent	,,	0	2	4 *
,, ,, Miscible, 60° O.P.	,,	0	1	11 *
Oils :—				
Cottonseed	per ton	22	0	0
Linseed	,,	22	5	0
Stearine	,,	32	0	0
Phosphorus (yellow)	per lb.	0	1	5
,, (red)	,,	0	1	11
Potassium, Bichromate	nett ,,	0	0	3½
,, Carbonate, 90% (ex ship)	per ton	19	10	0
,, Chlorate	per lb.	0	0	3½
,, Cyanide, 98%	,,	0	0	8½
,, Hydrate (Caustic Potash), 90%	per ton	25	0	0
,, ,, ,, 75/80%	,,	21	0	0
,, Potash Hydrate Liquid, 50%	,,	14	0	0 *
,, Nitrate (refined)	,,	23	10	0
,, Permanganate (small crystals)	per cwt.	36/-		
,, Prussiate (yellow)	per lb.	0	0	5¾
,, Sulphate, 90% (ex ship)	per ton	9	15	0
,, Muriate, 80% ,,	,,	9	0	0
Silver (metal)	per oz.	0	2	0½
Sodium (metal)	per lb.	0	3	0
,, Carb. (refined Soda-ash), 48%,	nett per ton f.o.r w'ks.	5	15	0
,, ,, (Caustic Soda-ash), 48%	,, ,,	5	10	0
,, ,, (Carb. Soda-ash), 48%	,, ,,	5	10	0
,, ,, (Alkali), 58% (bags)	,, ,,	4	10	0
,, ,, (Soda Crystals) (bags)	,, ,,	2	17	0
,, Acetate (ex ship)	,, ,,	17	5	0
,, Arseniate, 45%	,, ,,	22	0	0
,, Borate (Borax), Crystals	,, ,,	16	0	0
,, Bichromate	,, per lb.	0	0	3
,, Cyanide (100% basis)	,, ,,	0	0	7½
,, Chlorate	,, ,,	0	0	3½
,, Hydrate (76% C. Soda) (f.o.b.)	nett per ton 10 ton lots	11	0	0
,, ,, (74% C. Soda)	,, ,, ,,	10	15	0
,, ,, (70% C. Soda)	,, ,, ,,	10	5	0
,, ,, (60% C. Soda)	,, ,, ,,	9	5	0
,, ,, (pure liq. 90° Tw.)	,, ,, ,,	4	15	0
,, 77/78% powdered (99% hydrate)	per ton	12	10	0
,, Bicarbonate (cwt. kegs)	,,	6	15	0
,, Hyposulphite	,,	6	5	0
,, Manganate, 25%	,,	20	0	0 *
,, Nitrate (95%), ex ship, Liverpool	per cwt.	0	11	6
,, Nitrite, 98%	per ton	29	10	0
,, Phosphate	,,	9	5	0
,, Prussiate	per lb.	0	0	3½
,, Silicate (glass)	per ton	5	7	6
,, ,, (liquid, 100° Tw.)	,,	3	15	0
,, Stannate, 40%	per lb.	0	0	9
,, Sulphate (Salt-cake)	per ton	2	2	6 *
,, ,, (Glauber's Salts)	,,	1	12	6 *
,, Sulphide (crystals)	,,	6	5	0
,, Sulphite	,,	6	5	0
Strontium Hydrate, 100%	,,	9	0	0
Sulphocyanide, Ammonium, 95%	per lb.	0	0	6½
,, Barium, 95%	,,	0	0	3½
,, Potassium	,,	0	0	7
Sulphur (Flowers)	per ton	6	10	0
,, (Roll Brimstone)	,,	6	5	0
,, Brimstone (Best Thirds) (ex ship)	,,	4	12	6 *
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	32	10	0
Tin Crystals	per lb.	0	0	9½
,, English Ingots	per ton	127	10	0
Zinc (Spelter)	,,	19	10	0
,, **Chloride (solution, 100° Tw.)**	,,	5	15	0 *
,, Sulphate, Crystal	,,	6	15	0

Packages extra, or returnable: Otherwise, prices usually include packages.

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